DOCUMENT RESUME

ED 243 724 SE 044 498

AUTHOR	Kelly, Francene; Phelan, Laura
TITLE	Water World Creatures. Project CAPE Teaching Module K-2a.
INSTITUTION	Dare County Board of Education, Manteo, N.C.
PUB DATE	Jun 82
NOTE	223p.; For related documents, see ED 211 358, ED 211 365, ED 211 389, ED 216 906, and SE 044 496-501. Supplementary materials have been added to the end of the document.
AVAILABLE FROM	Project CAPE/Dare County Board of Education, P.O. Box 640, Manteo, NC 27954 ($4.75).
PUB TYPE	Guides - Classroom Use - Guides (For Teachers) (052)
EDRS PRICE	MF01 Plus Postage. PC Not Available from EDRS.
DESCRIPTORS	*Animals; Art Activities; Elementary School Mathematics; *Elementary School Science; *Interdisciplinary Approach; Language Arts; *Learning Activities; *Marine Biology; *Marine Education; Music; Primary Education; Resource Units; Science Activities; Zoology
IDENTIFIERS	North Carolina

ABSTRACT

Twenty-four interdisciplinary lessons on marine vertebrates (fishes, seahorses, whales, dolphins, sea turtles, and birds) are provided in this unit designed for students in kindergarten and in grades 1 and 2. These lessons are divided into four sections, each centered around a specific reading book. Each lesson includes lesson concept, competency goals, objectives, materials needed, background information, teacher preparation, and activities. Activities are designed to foster development of manipulative, communicative, inquiry, creative, organizational, and measurement skills to enable students to understand that water provides habitats and protection for living organisms and that aquatic organisms are adapted to their environment in different ways. A packet of materials to be duplicated and four supplementary reading books are included. These books are: (1) "Longfin"; (2) "The Lighthouse Party"; (3) "Cecil's Journey"; and (4) "The Riddle Coloring Book." Material in this unit may be incorporated into science, language arts, mathematics, art, and music lessons. (JN)

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PROJECT CAPE TEACHING MODULE

Developed under an ESEA Title IV-C Grant

Dare County Board of Education
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TITLE: WATER WORLD CREATURES

GRADE LEVEL: K-2

SUBJECTS: Science, Language Arts, Mathematics, Art, Music

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Project CAPE Publication K-2a
June, 1982

ACKNOWLEDGEMENTS

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WATER WORLD CREATURES

A Unit on Marine Vertebrates

Grades K-2

UNIT CONCEPTS

1. Water provides habitats and protection for living organisms.
2. Aquatic organisms are adapted to their environment in different ways.

COMPETENCY GOALS

1. The learner will demonstrate the ability to observe.
2. The learner will understand that there are many kinds of living things.
3. The learner will understand that living things exhibit basic similarities and differences.
4. The learner will demonstrate the ability to classify according to a selected characteristic.
5. The learner will demonstrate adequate comprehension skills.

INTRODUCTION

Vertebrates are animals that have backbones. Many animals that live in and around the water have backbones. Water world vertebrates include fishes, mammals, turtles and birds. We are going to study about some of these water world vertebrates in this unit.

Fishes

There are many kinds of fish. A fish has scales that cover its body and protect it from disease. A fish has gills on both sides of its head. Fish breathe oxygen in the water with their gills. Fins help the fish to swim in the water. The tail swishes from side to side and the fins steer the fish through the water. Fish lay eggs in the water. The eggs hatch and become baby fish. Many fishes are good to eat! Fish that live in the deep ocean are able to stand the increased pressure.

The Seahorse

A seahorse is a strange-looking fish. It grows to be eight inches long (10 cm). The seahorse has a head shaped like a horse and a long curled tail. A seahorse can rest from swimming by curling its tail around seaweed. The seahorse sways from side to side as it swims. Fins enable the seahorse to swim in the water. The seahorses' body is covered with bony plates. Seahorses are different from other fish because the father seahorse gives birth to the young. The mother seahorse lays her eggs into a pouch on the father seahorse. The eggs are carried in the father's pouch until they hatch. The baby seahorses leave the father's pouch and swim away.

Whales

Whales live in the sea, but they are not fish. Whales are mammals. Mammals are warm-blooded animals which give birth to their young. A whale has a blowhole on the top of its head. The whale breathes air in and out of its blowhole. Skin covers the whale's body. Whales have fat under their skin, called blubber, to keep them warm. Some whales do not have any teeth. They have whalebone hanging from the roof of their mouth called baleen. The baleen catches tiny animals for the whale to eat. Whales eat many tiny animals called krill. Whales have babies that are born in the sea. Mother whales give their babies milk to drink. The mother whale takes good care of her baby whale.

Dolphins

Dolphins are mammals. They are like small whales. Dolphins have blowholes to breathe air. They can make funny sounds. Dolphins communicate by sounds. Dolphins can swim very fast. They have a tail and flippers for swimming. They eat fish, squid and shrimp. Scientists think dolphins are very smart. Dolphins can be trained to perform in shows at sea aquariums.

The Sea Turtle

The sea turtle is brown and yellow in color. It has a large heavy shell. The sea turtle has lungs for breathing air. When the sea turtle is under water, its heartbeat is very slow. Because the sea turtle's heart beats slowly, it does not need much air. The sea turtle can stay under water for five hours before it must breathe air again. Sea turtles have large flippers to help them swim. The sea turtle must come out of the water to lay its eggs. A sea turtle digs a hole in the sand and lays her eggs in the hole. She uses her flippers to cover the eggs with sand. The sea turtle's shell is heavy so the journey to the beach is not easy. The eggs hatch into baby sea turtles. The baby sea turtles must crawl out of the hole and find their way to the sea.

Birds

Many kinds of birds live near the water. Birds are vertebrates with hollow bones that are very light. The hollow bones make it easier for the birds to fly. Water birds' feathers are oily. The feathers are coated with oil to waterproof the birds. Water birds have special beaks that help them get their food. Their feet help them swim and wade in the water. Seagulls have webbed feet and sharp yellow beaks. The Sandpiper is another water bird that has a long thin bill. A Sandpiper uses its beak to dig in the sand for worms and other small animals. The Sandpiper has long toes to help it stand on the wet sand. The Pelican has a fishing pouch on its long bill. It catches fish in its pouch. There are many kinds of birds that live in and around the water.

The teacher should make a request to the media specialist for all available resources on marine life. These resources can be placed in a special center where the students can enjoy them. A suggested bibliography is included.

EXPLANATION OF CODING SYSTEM

FOR SUPPLEMENTARY MATERIALS

GRADE LEVELS AND SUBJECTS	CODE
K-2 Multidisciplinary	K-2a, K-2b, K-2c
3-4 Multidisciplinary	3-4a, 3-4b, 3-4c
5-6 Multidisciplinary	5-6a, 5-6b, 5-6c
SECONDARY SCHOOL	
English	ENG
Occupational Education	OE
Social Studies	SOC
Science	
Life	SC1
Earth	SC2
Biology	SC3

LESSON NUMBERS	
1	1.
2	2.
3	3.
etc.	etc.

SUPPLEMENTAL MATERIALS	
1	.1
2	.2
3	.3
etc.	etc.

EXAMPLES

K-2a
1.1 Translates: a supplemental sheet, booklet or game number 1 that accompanies the 1st lesson of Unit K-2a for grades K-2.

SC2
6.4 Translates: a supplemental sheet, booklet or game number 4 that accompanies the 6th lesson in Unit SC2 for earth science.

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SECOND GRADE TEST		(K-2a)

VOCABULARY

A vocabulary chart can be displayed in the room and words can be added as each lesson is taught. These vocabulary words are introduced in the following lessons.

Lesson 1: Window Aquarium

marine
fish
mammal
reptiles
bird
scales
skin
feathers
shell

Lesson 2: Waterproof Water Birds

oil
waterproof

Lesson 4: Gyotaku

gyotaku
fins
dorsal fin
tail fin
pectoral fin
ventral fin
anal fin
gill cover

Lesson 9: Ocean Depths

depths
pouch
sea horse
seaweed
sea gull
turtle
shark
whale
angler fish
manta ray
bony plates
current
ocean
eggs
lantern fish

Lesson 10: Water Pressure

water pressure

Lesson 12: Monsters Of The Deep

luminous

Lesson 14: Whales Ho!

whales
blowhole
blubber
calves
milk
baleen
krill
song

Lesson 15: Big, Bigger, Biggest

Blue Whale
size
largest mammal

Lesson 16: Thar She Blows

spout
lungs

Lesson 17: The Whale Family

Bottlenose Dolphin
Killer Whale
Gray Whale
Humpback Whale
Sperm Whale
Blue Whale
feet (measurement)

Lesson 18: Baleen Strainers

Blue Whale
Humpback Whale
Right Whale
Finback Whale
Gray Whale

Lesson 20: Marine Riddles

eel

Lesson 21: Whale Of A Riddle

teeth
wing

Lesson 23: Who And What

beak
hollow bones
flippers
cartilage

SUGGESTED BIBLIOGRAPHY

Buckley, Peter. Sea Creatures. New York: Holt, Rinehart, and Winston, Inc., 1973.

Coates, Christopher W. The Electric Eel. New York: Holt, Rinehart and Winston, Inc., 1966.

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*Ipcar, Dahlov. The Biggest Fish In The Sea. New York: The Viking Press, 1972.

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Selsam, Millicent, and Joyce Hunt. A First Look At Fish. New York: Scholastic Book Services, 1972.

Selsam, Millicent E. Animals Of The Sea. New York: Four Winds Press, 1975.

Vaughn, Jennifer. Fish And Mammals. New York: Grosset and Dunlap, 1977.

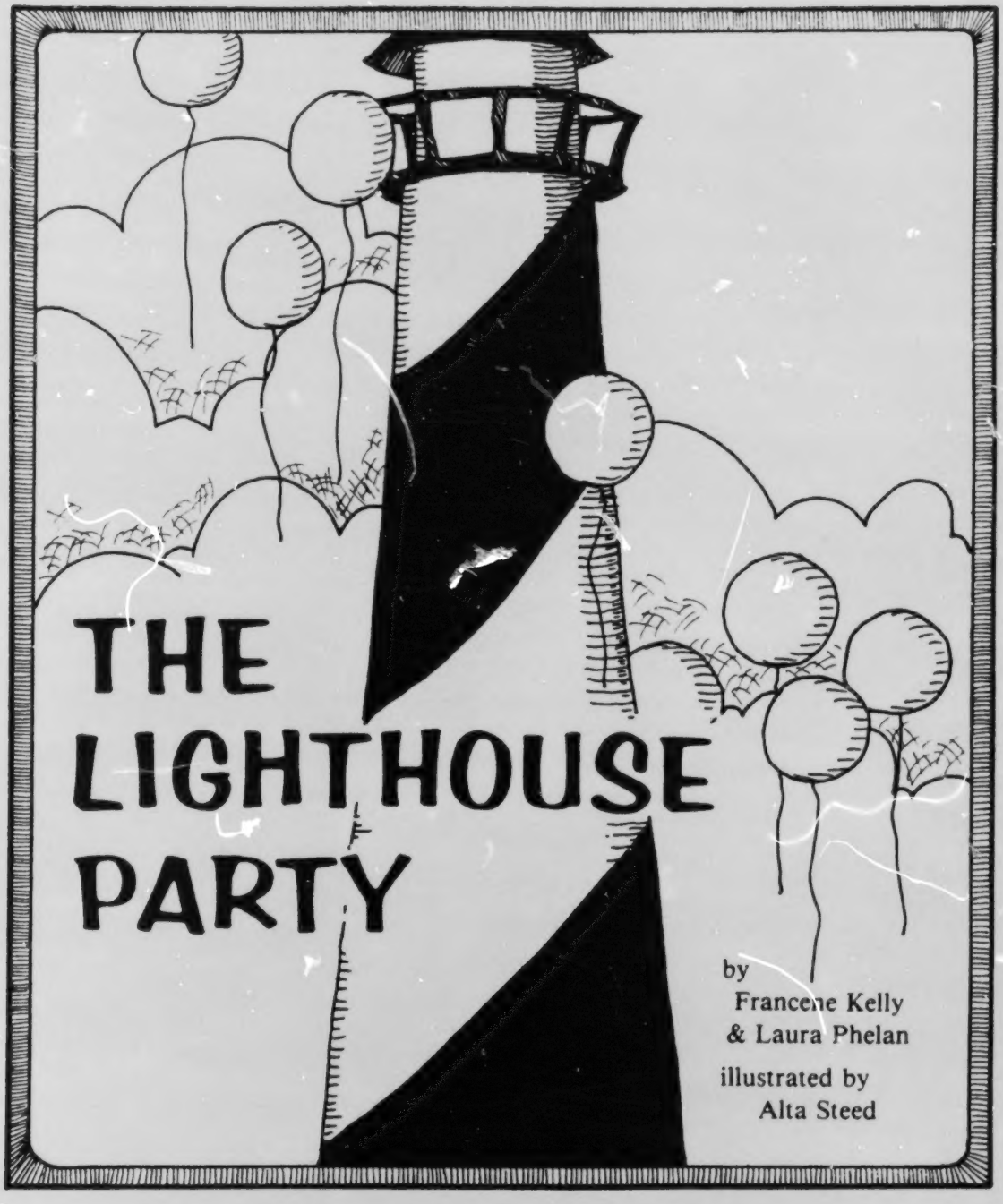
Waters, John F. Green Turtle Mysteries. New York: Thomas Y. Crowell Company, 1972.

---. Hungry Sharks. New York: Thomas Y. Crowell Company, 1973.

---. Some Mammals Live In The Sea. New York: Dodd, Mead and Company, 1972.

World Book Encyclopedia. Volume 14, "Oceans."

*This book is needed for lesson #5.


THE
LIGHTHOUSE
PARTY
by
Francene Kelly
& Laura Phelan
illustrated by
Alta Steed

Lesson Number: 1
Skills: Creative,
Manipulative

WINDOW AQUARIUM

LESSON CONCEPTS

1. Marine vertebrates are animals with backbones.
2. Marine animals consist of fishes, mammals, reptiles and birds.
3. Marine animals differ in body coverings.

OBJECTIVE

The learner will choose a marine animal to use in an art form.

MATERIALS

wax paper (2 pieces per child)
an iron
old broken crayons
egg cartons

books with pictures of marine organisms - a good source is Fish and Mammals originally entitled Sea and River Animals by Jennifer Vaughan.

TEACHER PREPARATION

Use old broken wax crayons to create a stained glass effect. Grind wax crayons through a pencil sharpener to obtain small bits of colored wax. Place different colors in the compartments of egg cartons. Provide enough egg cartons for the children to work in groups.

ACTIVITIES

1. The teacher should read The Lighthouse Party to the class and discuss the differences in marine animals.
2. Give each child one piece of wax paper and place it shiny side up.
3. Have the children draw with a crayon a picture of a marine animal from the story.
4. Give small groups of children an egg carton with different colored crayon "chips." Have them fill in their drawing of a marine animal with the chips. When placing chips on the drawing, be sure to leave spaces between the chips. Be careful not to use too many chips.

5. Place a second piece of wax paper on top of the crayon chip creation. Be sure the wax paper is shiny side down.

6. Press the entire piece of wax paper with a hot iron to melt the crayon chips between the paper. Make sure the wax paper is sealed around the edges of the picture.

7. When the picture has cooled, cut off the excess wax paper following the shape of the drawing.

8. Display the marine animals in a sunny window in the classroom.

9. While the teacher is ironing the wax paper animals for the window aquarium, the students may be drawing their own aquariums on pieces of drawing paper.

Lesson Number: 2
Skills: Inquiry,
Manipulative,
Organizational

WATERPROOF WATER BIRDS

LESSON CONCEPT

Water birds have adaptations that enable them to live in and around the water.

OBJECTIVES

1. The learner will discover how a bird's feathers are adapted to the water environment.

2. The learner will complete the activity to discover how oil protects a bird by keeping it dry.

MATERIALS

4 large feathers
water
dish detergent
cooking oil
motor oil or vaseline
hair dryer

BACKGROUND INFORMATION

Birds secrete an oil from an oil gland which coats the feathers to keep the bird dry. An oil coating on their feathers makes them resistant to water. When birds preen themselves, they are distributing oil from the gland on their rumps over their feathers.

ACTIVITIES

1. Obtain a drop of oil on your thumb and forefinger. Rub the oil onto a feather, massaging it along the natural contour and pattern of the feather. Demonstrate the feather's resistance to water by pouring water over the feather. The water will bead up and roll off the feather (waterproof).

2. Wash a second feather with dish detergent to remove any natural oils. Dry it with a hair dryer. Observe how the parts of the feather become frizzy. Ask the children what would happen to a bird whose feathers were too dry.

3. Rub a heavy coating of motor oil or vaseline on a third feather. Demonstrate how this feather will stick to another feather. Then show that the first feather with oil carefully applied to it will not stick to other feathers. Involve the children in a discussion about what would happen to birds caught in oil from a spilled tanker.

Lesson Number: 3
Skills: Manipulative,
Organizational

MIXING AND MATCHING

LESSON CONCEPT

Marine animals have body coverings which help them live in their marine environment.

OBJECTIVE

The learner will match marine vertebrates to other animals with similar body coverings.

MATERIALS

animal cards

TEACHER PREPARATION

Cut out, mount and laminate the animal cards provided in the media package, supplementary sheets 3.1 - 3.4.

ACTIVITIES

1. Let the children work individually or in small groups. Play a matching game by matching the pictures according to the type of external body covering. Read the kind of body covering at the bottom of the card and match it to a like card.

2. This game may be placed in a learning center. Color coding can be used to make the game self-checking.

Lesson Number: 4
Skills: Creative,
Communicative,
Manipulative

GYOTAKU

LESSON CONCEPT

Fish have gills for breathing oxygen in the water, a tail and fins for swimming and scales that cover its body.

OBJECTIVES

1. The learner will identify the gill cover, fins and scales of a fish before and after making a fish print.
2. The learner will make a print of a fish by listening carefully and following directions.

MATERIALS

fresh dead fish
thin tempra paint
newsprint or paper towels
pins
paintbrush
clay
old newspapers

BACKGROUND INFORMATION

Gyotaku is the Japanese art of fish printing. The word "gyotaku" means fish rubbing. Gyo- means fish and -taku means rubbing. It was used by fishermen in the early 1800's to preserve a record of their catches. Gyotaku is pronounced gī-ō-tak'-u.

As the children do the activity, point out the parts of a fish. Most fish have a dorsal fin, tail fin, a pair of pectoral fins, a pair of ventral fins and an anal fin. Use the fish drawing included in the media package, supplementary sheet 4.1, to aid in identifying structures.

ACTIVITIES

1. Wash the fish with soap and water to remove dirt and mucous. Allow the class to feel the fish.
2. Cover a table with newspapers. Place the fish on the newspaper. Work on one side of the fish only. Spread the fins on modeling clay and pin them in place.

Lesson Number: 5
Skills: Communicative, Creative

THE BIGGEST FISH IN THE SEA

LESSON CONCEPT

The sea is full of many different kinds of fish that are different in size, shape, color and markings.

OBJECTIVES

1. The learner will demonstrate comprehension skills by role-playing the story The Biggest Fish In The Sea.

2. The learner will recall events in sequence by participating in a role-play of The Biggest Fish In The Sea.

MATERIALS

The Biggest Fish In The Sea by Dahlov Ipcar

TEACHER PREPARATION

Read the story The Biggest Fish In The Sea by Dahlov Ipcar. Tell the students that they may role-play (act out) the story.

ACTIVITIES

1. Assign children to the following roles:

   Tino
   Tino's mother
   Tino's father
   Tino's two sisters
   Tino's two brothers
   Ten fishes
   All of the other children will be the townspeople.

2. Give the ten fishes the following names:

   #1 little fish
   #2 good-size fish
   #3 bigger fish
   #4 even bigger fish
   #5 even bigger fish
   #6 bigger fish
   #7 bigger fish
   #8 enormous fish
   #9 tremendous fish
   #10 gigantic fish - The Biggest Fish In The Sea!

3. Tell the students to act out the play beginning with Tino showing his family the little fish he caught. Start the action by saying, "Once there was a very small boy named Tino. One day he went fishing and he caught a very small fish."

4. Conclude the role-play with an appropriate applause for everyone.

SOURCE

Ipcar, Dahlov. The Biggest Fish In The Sea. New York: The Viking Press, Inc., 1972.

Lesson Number: 6
Skills: Communicative, Creative

LITTLE FISH, BIG FISH

LESSON CONCEPT

There are many ways to classify different kinds of fish.

OBJECTIVES

1. The learner will classify fish pictures according to size, shape, color and design.
2. The learner will arrange a group of fish cut-outs from shortest to longest.
3. The learner will think of other ways to classify fish.

MATERIALS

construction paper fish cut-outs number cards magic markers

TEACHER PREPARATION

Enlarge on construction paper the fish patterns included in the media package, supplementary sheets 6.1 and 6.2. Vary the sizes of the fish so that they can be arranged from shortest to longest. Choose four colors and cut two fish in each color. Decorate one side of the fish with dots, stripes and other patterns. Decorate in four different patterns, having two fish decorated in each pattern. Make and cut out dots to glue to the back of the fish to designate the size from shortest to longest. The longest fish will have eight dots on the back and the shortest fish will have one dot. Laminate or cover the fish with contact paper for durability. Cut and laminate the number cards provided in the media package, supplementary sheet 6.3.

Display the fish in an area where children can work in small groups. (Bulletin board, table or center area.) Do not place the fish in any particular order.

Reproduce supplementary sheet 6.4 for use with activity 5.

2. Tell the students to group the fish by color. The colors of the fish will match, but the shape, pattern and size may or may not match. There will be four color groups with two fish in each group.

3. Tell the students to group the fish according to the decorative pattern. The patterns of the fish will match, but the shape, size and color may or may not match.

4. Tell the students to group the fish by their shapes. The shapes will match, but the size, color and pattern may or may not match.

5. Give each child a copy of supplementary sheet 6.4. Instruct them to make each fish different in color and markings.

6. Have the children to paste and arrange from longest to shortest their fish on paper or a wall mural.

Lesson Number: 7
Skills: Manipulative, Creative

MOUNTED TROPHY FISH

LESSON CONCEPT

A fish has dorsal fins, pectoral fins, pelvic and anal fins to help it swim.

OBJECTIVE

The learner will be able to locate and name the fins of a fish.

MATERIALS

9" x 12" drawing paper
9" x 12" background paper
scissors, stapler
pencil and crayons

VOCABULARY

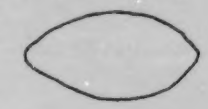
dorsal fins (top)
pectoral fins (side)
pelvic fins (bottom front)
anal fin (bottom back)

TEACHER PREPARATION

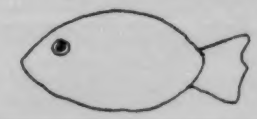
Teach fish anatomy through an art activity. Follow the steps in drawing a fish. Name each part of the fish as it is added to the fish body.

ACTIVITIES

1. Tell the children to draw an egg shape as illustrated.



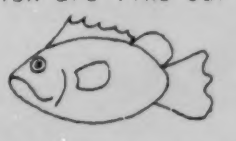
2. Add a fish eye and a fish tail to the shape. Now it looks like the body of a fish.



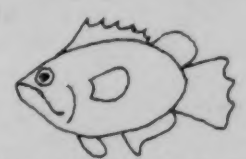
3. Fish never look like they are smiling, so draw a grumpy mouth. Next add a gill cover.

4. Dorsal fins are on top of the fish. Add a spiny dorsal and a soft dorsal fin.

5. Pectoral fins of a fish are like our arms. Draw a pectoral fin.

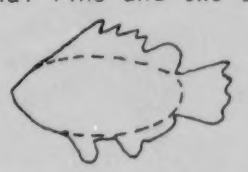


6. Pelvic and anal fins are on the bottom of the fish. Add a pelvic fin and an anal fin.



7. Color and decorate the fish any way you like and cut it out.

8. The teacher should score lines along the front of the children's fish by pressing the scissor point down the paper. Score along the dorsal, pelvic and anal fins and two curved lines down the back of the fish.



9. Fold the fish on the lines and staple the fins to a dark background.

SOURCE

Baer, Gene. Paste, Pencils, Scissors and Crayons. West Nyack, New York: Parker Publishing Co., Inc., 1979.

Lesson Number: 8
Skills: Inquiry,
Manipulative,
Communicative

FUN ACTIVITY

LESSON CONCEPT

Marine vertebrates can be classified according to their similarities and differences.

OBJECTIVE

The learner will group animals according to their characteristics by matching picture cards in a game of rummy.

MATERIALS

Copy of game directions, supplementary sheet 8.1, and playing cards for "Water World Rummy."

ACTIVITY

Allow teams of four students to play "Water World Rummy" at a center as a culminating review experience to the lessons on the Lighthouse Party.

CECIL'S JOURNEY

by Francene Kelly

illustrated by Alta Steed

Lesson Number: 9
Skills: Communicative,
Manipulative,
Creative

OCEAN DEPTHS

LESSON CONCEPT

Marine animals live at all levels in the ocean. Some animals live at great ocean depths.

OBJECTIVES

1. The learner will recall events in sequence of the story Cecil's Journey.
2. The learner will position marine animals according to the level in which they live in the ocean.

MATERIALS

bulletin board

paint, crayons, marking pens

BACKGROUND INFORMATION

Cecil the Seahorse encounters many sea animals on his journey in the ocean. At the surface he meets a sea gull searching for food and a sea turtle coming up for a breath of fresh air. When a large shark appears, Cecil hurries away. Cecil would like to make friends with the dolphins and play and jump in the water as they do. He meets with a sperm whale who is very large. The sea gets very dark as Cecil goes deeper. He sees an angler fish who looks very strange to him. The angler fish helps Cecil find his way home. He also meets a Manta Ray gliding on the ocean floor.

TEACHER PREPARATION

Make copies of the animal sheet in the media package for each child, supplementary sheet 9.1. World Book Encyclopedia, Volume 14, "Oceans", has a good illustration of ocean depths with sea creatures.

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ACTIVITIES

1. Read the story Cecil's Journey to the class during story time. Place the book in the reading center.

2. Have the children paint, color or place construction paper on the bulletin board. A large box can be used instead of a bulletin board.

   The top level should be a light blue or green. The middle level should be deep blue or green and the third level should be black or navy blue.

3. Have the students color and cut out the animals that Cecil saw on his journey--the animals may be enlarged. A picture of Cecil and other animals is included in the media package, supplementary sheet 9.1.

   Place the animals in the correct level on the bulletin board.

   1st level - sea gull, turtle, dolphin

   2nd level - shark, whale

   3rd level - angler fish, manta ray

Lesson Number: 10
Skills: Inquiry,
Manipulative

WATER PRESSURE

LESSON CONCEPT

Water exerts pressure on living things in the ocean.

OBJECTIVE

The learner will complete the activity to find that water exerts pressure on living things under the sea.

MATERIALS

plastic bags (bread bags)
ten penny nail and hammer
deep container of water (i.e., bucket)
half gallon milk carton

BACKGROUND INFORMATION

When you dive off the diving board to the bottom of the pool, do your ears feel tight? As you move deeper in the water, the water pressure becomes greater. The pressure increases with depth because the water above is pushing with its weight against you. We move slower in water because the water pressure is greater than air pressure.

Fish living in different depths of the sea adapt to the different water pressures in which they live. The pressure inside and outside a fish are equal, so the fish does not feel the water pressure.

STUDENT PREPARATION

Save a bread bag from home and bring it to class.

ACTIVITIES

1. Each child should have a plastic bread bag. Have the children put one of their hands into the bread bag. This can be demonstrated with one bag in a group situation.

2. The bag will not cling to or stick to his/her hand.

3. Let each child lower his/her bagged hand into the container of water. Ask the child to describe what happens to the bag. The bag will cling to his/her hand because of the pressure exerted by the water.

4. Activity to demonstrate that water pressure increases with depth:

   a. Obtain a half gallon milk carton.

   b. Using a ten penny nail, punch 3 holes along one side of the carton. Punch one hold near the top, another in the middle and a third hole near the bottom along a vertical line.

   c. Hold the carton under a water faucet, allow water to rapidly fill the carton since the water will be escaping through the holes. The water coming out of the bottom hole will shoot out farthest since it has the greater pressure.

SOURCE

Coe, Geoffrey. The How And Why Wonder Book Of Fish. New York: Grosset and Dunlap, Inc., 1973.

Lesson Number: 11
Skills: Communicative, Creative

THE SEAHORSE

LESSON CONCEPT

Seahorses are marine animals.

OBJECTIVE

The learner will participate in the composition of an experience chart giving information on what he/she has learned about seahorses.

MATERIALS

chart paper

marking pens

ACTIVITIES

1. Tell the children to think of what they have learned or what they know about seahorses. Write down their sentences as they dictate them.

2. Write the sentences on a chart to make a story about seahorses. The children should be able to read the story they have written in their own words.

3. An example: About Seahorses

   Seahorses have a horse-shaped head.
   Their tails are curved.
   Father seahorses have a brood pouch.
   Baby seahorses hatch in the brood pouch.

4. Let the children copy the stories they have made. Save the copies to make a book at the end of the unit.

Lesson Number: 12
Skills: Creative,
Manipulative

MONSTERS OF THE DEEP

LESSON CONCEPT

Fish of the deep have certain characteristics.

OBJECTIVES

1. The learner will observe that luminous spots are a characteristic of the fish of the deep.
2. The learner will observe the monster-like features of these fish.

MATERIALS

drawing paper
crayons or felt markers
black paper
scissors
luminous paint

ACTIVITIES

1. Give each student a piece of drawing paper and have them create their own "monster of the deep." Color and cut out.
2. With luminous paint, paint spots on the fish.
3. Mount on black paper.
4. The teacher can turn out the lights to simulate the conditions of the ocean depths.

Lesson Number: 13
Skills: Inquiry,
Manipulative

FUN ACTIVITIES

LESSON CONCEPT

Marine organisms have basic characteristics.

OBJECTIVE

The learner will become familiar with the natural history of a seahorse by solving word and pictorial puzzles.

MATERIALS

Copies of supplementary sheets 13.1, 13.2, 13.3 and 13.4.

ACTIVITIES

Use these puzzles as a culminating review of the information taught in the lessons on Cecil's Journey.

Lesson Number: 14
Skills: Communicative, Creative

WHALES HO!

LESSON CONCEPT

Whales are mammals and bear their young alive. Whales must breathe air into their lungs.

OBJECTIVES

1. The learner will participate in the composition of an experience chart giving information on what he/she has learned about whales.
2. The learner will indicate what he/she has learned by dictating a sentence to be written down and then read.

MATERIALS

chart paper marking pens

TEACHER PREPARATION

Reproduce the whale crossword puzzle, supplementary sheet 14.1.

ACTIVITIES

1. Read the story of Longfin to the class.
2. Let the children express what they have learned about whales in the form of an experience chart.
3. Tell the children to think of what they have learned or what they know about whales. As they raise their hands, let them dictate a sentence.
4. Write down the children's sentences to make a story about whales. The students should be able to read the story they have written in their own words.
5. An example: About Whales

   Whales live in the sea.
   Whales are not fish.
   They are mammals.
   Whales have a blowhole to breathe air.

Skin covers the whale's body.
Whales have blubber under their skin.
Whales have calves that are born in the sea.
Mother whales give their calves milk to drink.
Some whales have baleen to catch krill for food.

6. You can also repeat the activity changing the subject to Dolphins.

7. Let the children copy the stories they have made. Save the copies to make a book at the end of the unit.

8. Use the whale crossword puzzle sheet, supplementary sheet 14.1, in the media package as a follow up activity.

Lesson Number: 15
Skills: Measurement, Manipulative, Inquiry

BIG, BIGGER, BIGGEST

LESSON CONCEPT

Whales are large animals. The Blue Whale is the largest mammal in the world.

OBJECTIVES

1. The learner will arrange in order a set of pictures from the largest to the smallest according to size.
2. The learner will compare the size of the blue whale with the size of a dinosaur, elephant, cow and boy.

MATERIALS

activity sheet
scissors
crayons
paste

BACKGROUND INFORMATION

The blue whale is the largest animal in the world. A blue whale may grow to be 100 feet long and weigh as much as 100 tons.

TEACHER PREPARATION

Prepare copies of supplementary sheets 15.1 and 15.2 for the students. In addition, the teacher may enlarge the animal drawings, color them, cut out and laminate to use when conducting the activity.

ACTIVITIES

1. Each student must have an activity sheet with pictues of a Blue whale, dinosaur, elephant, cow and boy.
2. Let the children color the pictures and cut them out.
3. First, arrange the pictures in order from smallest to largest. What is the name of the animal in the largest picture?

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4. Find the picture of the boy. Can you put the boy on the picture of the whale? Can the boy ride the elephant?

5. How many boys can stand on the dinosaur's tail?

6. Find out how many cows it will take to make the size of the blue whale.

7. Continue discussing and questioning until the children can correctly place the pictures in order according to size.

Lesson Number: 16
Skills: Inquiry,
Manipulative

THAR SHE BLOWS!

LESSON CONCEPT

Whales are mammals that live in the sea. A whale breathes air in and out its blowhole.

OBJECTIVES

1. The learner will discover how a whale breathes air in and out its blowhole by simulating a blowhole with a drinking straw.

2. The learner will observe a teacher demonstration showing how a whale breathes air in and out its blowhole.

MATERIALS

glass or clear plastic container
snorkel or tube (plastic drinking straws)
bendable drinking straws

BACKGROUND INFORMATION

Whales are mammals and so they must breathe air. Whales come to the surface of the water to "blow" (breathe). The whale blows out the air in its lungs. The escaping air forms a spout. When sailors see the spout they call out, "Thar she blows!" The whale fills its lungs again with fresh air and dives back under the water.

ACTIVITIES

1. Use the snorkel to simulate a whale's blowhole. Inhale air using the snorkel and quickly exhale or blow. Let a student place his/her hand over the snorkel blowhole to feel the air being pushed out.

2. Give each student a drinking straw. Let the students pretend they are whales breathing through their drinking straw blowholes.

   Have students stand to inhale and stoop to exhale.

3. Fill a flask or clear plastic container with water. Cover the mouthpiece hole of the snorkel with your thumb and submerge it below the surface of the water. Compare this to a whale going under the water with its lungs filled with air.

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4. Keep your thumb tightly over the mouthpiece hole and remove the snorkle from the water. Hold the snorkle in a vertical position and quickly place your mouth over the mouthpiece hole and blow hard. The result is like a whale's spout. Inhale fresh air through the mouthpiece once the water has been blown out.

5. Have the students try the same procedure using bendable drinking straws. Be careful of the water spouts! "Thar she blows!"

Lesson Number: 17
Skills: Measurement, Manipulative

THE WHALE FAMILY

LESSON CONCEPTS

1. The whale family has many kinds of whales.
2. Some whales are very large. The Blue Whale is the largest whale.

OBJECTIVES

1. The learner will participate in a field activity by measuring the length of some members of the whale family.
2. The learner will compare the size of the members of the whale family.

SITE DESCRIPTION

playground or football field

MATERIALS

7 dowel rods or meter sticks
pictures of the whale family
50 foot measuring tape

BACKGROUND INFORMATION

These are the average lengths for the respective whale family members:

Bottlenose Dolphin	-	8 ft.	or	2.4 m
Killer Whale	-	20 ft.	or	6.1 m
Gray Whale	-	40 ft.	or	12.2 m
Humpback Whale	-	50 ft.	or	15.2 m
Sperm Whale	-	60 ft.	or	18.3 m
Blue Whale	-	100 ft.	or	30.5 m

TEACHER PREPARATION

Make copies of the whale family pictures in the media package, supplementary sheets 17.1 - 17.7. Color the pictures of the whale family or let some children do the coloring. Write the name and length

of each animal on the back. Mount and laminate the pictures for durability. Attach each picture to a dowel or meter stick. One additional rod should be used to mark the start. Measure off 100 ft. in units of 10 feet with a string or tape.

ACTIVITIES

1. Divide the class into six groups and give each group a dowel rod with a picture on it. The pictures represent dolphins, killer whales, sperm whales, humpback whales, gray whales and blue whales.
2. On the playground or field, line the students along the START.
3. All together, step off 8 ft. and have the Common Dolphins sit down.
4. Step off to the 20 ft. mark and have the Killer Whales sit down.
5. Step off to the 40 ft. mark and have the Gray Whales sit down.
6. Step off to the 50 ft. mark and have the Humpback Whales sit down.
7. Step off to the 60 ft. mark and have the Sperm Whales sit down.
8. Step off to the 100 ft. mark and have the Blue Whales sit down.
9. The teacher should stand at the 50 ft. mark and ask the questions listed below. The students should respond by waving their arms.
10. Let the students run the length of each whale.

QUESTIONS

1. What members of the whale family are the biggest whales?
2. What family members are the smallest whales?
3. Which whales are less than 50 feet?
4. Which whales are 50 feet or larger?

ENRICHMENT

1. Repeat the activity using the metric system (meters) to represent the size of the whales.
2. Using lengths of string to represent the length of each whale, the students can compare the whales' size to the classroom, school buses, etc.

Lesson Number: 18
Skills: Inquiry,
Communicative

BALEEN STRAINERS

LESSON CONCEPT

Baleen whales have baleen hanging from the roof of their mouths. Baleen works like a strainer to catch tiny krill for food.

OBJECTIVE

The learner will discover how a whale's baleen works like a strainer through the use of investigative techniques.

MATERIALS

pine straw or broom straw
cardboard strips 4" x 8"
water
glue
box of rice
container to catch water - dishpan

VOCABULARY

baleen
krill

BACKGROUND INFORMATION

Baleen whales are toothless. They have baleen (sometimes called whalebone) hanging from the roof of their mouths. The baleen works like a strainer catching tiny shrimp-like animals called krill. Baleen whales are the largest whales and have two blowholes instead of one. The Blue Whale, Humpback, Right Whale, Finback Whale and Gray Whale are all examples of baleen whales. A large whale may eat over a ton of krill at one feeding.

TEACHER PREPARATION

Cut 4" x 8" cardboard or posterboard strips. Collect pine straw or broom straw to simulate baleen. Pour the rice into plastic tumblers of water. The rice will simulate millions of tiny crustaceans called krill.

ACTIVITIES

1. Divide the children into small groups. Each group needs two 4" x 8" cardboard strips, pine straw and glue.

Lesson Number: 19
Skills: Communicative, Creative

"SONGS OF THE HUMPBACK WHALE"

LESSON CONCEPT

The Humpback Whale can make sounds into long, slow and beautiful songs.

OBJECTIVE

The learner will listen critically to a recording of songs of Humpback Whales.

MATERIALS

recording of "Songs of the Humpback Whale"
Various recordings are available. One copy is available in the January 1979 issue of National Geographic. CRM Records, Delmar California 92014 also released a recording of the "Songs of the Humpback Whale."

chart paper marking pens

ACTIVITIES

1. Play the recording of "Songs of the Humpback Whale." Listen for the different tones and patterns.
2. Encourage children to think about the songs of the Humpback Whales. What do you think the whale is singing about?
3. Make an experience chart by letting the children dictate a story to you. Write down the sentences the children tell you on the board. Then, transfer the story to a chart. Read the chart with the class.
4. Let the children copy the story. Save the stories to make a book at the end of the unit.
5. Creative movement can be encouraged while the students listen to the whale songs.
6. Make copies of the Humpback Whale sheet, supplementary sheet 19.1 and allow students to connect the letters.

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THE RIDDLE COLORING BOOK

Lesson Number: 20
Skills: Communicative,
Manipulative

MARINE RIDDLES

LESSON CONCEPT

There are many kinds of animals that live in the marine world.

OBJECTIVE

The learner will identify the names of marine animals by listening to clues given in riddles.

MATERIALS

Riddle Coloring Book

Marine Puzzles

TEACHER PREPARATION

Mount, laminate and cut out the puzzles of marine animals, supplementary sheets 20.1 and 20.2. Make copies of the Riddle Coloring Book for students to color.

ACTIVITIES

1. Read the Riddle Coloring Book to the class. Let the children try to guess the name of the marine animal from the riddle in the book. Allow students to color sheets from the Riddle Coloring Book.

2. Let the children work in small groups to put the Marine Puzzles together. They must match the picture of the animal with clues about the animal.

3. This lesson can be used in a learning center where the Riddle Coloring Book has been taped. The Marine Puzzles can also be placed in the center.

Lesson Number: 21
Skills: Manipulative, Communicative

WHALE OF A RIDDLE

LESSON CONCEPT

Marine animals are adapted to their environment in different ways.

OBJECTIVES

1. The learner will play a whale riddle game by following directions and successfully answering a series of riddle questions.

2. The learner will identify some common marine animals by solving riddles that provide clues of adaptations to the marine environment.

MATERIALS

game board	riddle cards	playing markers
answer wheel	dice	directions

TEACHER PREPARATION

Directions, game board, answer wheel and riddle cards are included in the media package, supplementary sheets 21.1 - 21.7.

Make the game board for "Whale of a Riddle" using the pattern provided. Prepare a transparency of the pattern. To enlarge the pattern, place the transparency on an overhead projector. Tape a piece of posterboard to the wall and project the pattern onto the posterboard. Trace the pattern onto the posterboard, decorate it, and then laminate. An opaque projector may also be used to enlarge the pattern. Cut out the two circles of the answer wheel. Glue both circles to posterboard circles of the same size and laminate for durability. Cut out the slots on the answer wheel circle. The slots are marked by dotted lines. For best results, use a single-edge razor blade for cutting. Fasten the circles together at "+" with a paper fastener. To prepare the riddle cards, make three copies of supplementary sheet 21.4. Reproduce each question sheet (supplementary sheets 21.5, 21.6, 21.7) onto the back of a whale sh . Laminate for durability and cut apart. Cut out the four playing markers and glue them to pennies. Place the directions on the back of the game board. Place the "Whale of a Riddle" game in a learning center area.

MARINE ANALOGIES

LESSON CONCEPT

Marine animals have basic similarities and differences.

OBJECTIVES

1. The learner will determine the relationship between two ideas by matching the correct word to the analogy.
2. The learner will supply the missing word needed to complete an analogy.

MATERIALS

activity sheet paste scissors

TEACHER PREPARATION

Make copies of supplementary sheet 22.1 which is included in the media package.

ACTIVITIES

1. Tell the students to read the first two words. Think about what they might have in common. How are they related?
2. Read the next word and think about what the answer might be. Look at the bottom of the page in the "Word Box" to find the word that completes the analogy.
3. Cut out the words from the "Word Box" and paste them in the blanks where you think they belong.

Lesson Number: 23
Skills: Manipulative, Organizational

WHO AND WHAT?

LESSON CONCEPT

Marine animals have characteristics which help us to identify them.

OBJECTIVES

1. The learner will demonstrate a knowledge of marine animals by successfully playing the game "Who and What?".
2. The learner will correctly identify the characteristics of marine animals.

MATERIALS

posterboard or tagboard
7 library pockets
playing cards (in media package)

TEACHER PREPARATION

Make a game board by sticking the library pockets on posterboard or tagboard. Label the pockets as follows: FISH, WHALES, SHARKS, SEAHORSES, SEA TURTLES, DOLPHINS and BIRDS. Cut out the playing cards provided, supplementary sheets 23.1 - 23.3. Color code the cards to the pockets on the game board by coloring the front of each library pocket a different color and marking the back of each playing card with a dot of the respective colors. Mount and laminate the cards for durability.

ACTIVITIES

1. Place the game "Who and What?" in a center area. Let the children work individually or in small groups. When working in groups, children can take turns placing the cards in the pockets.
2. The game is self-checking. Children place the cards in the pockets and empty the pockets at the end of the game by matching the colors on the backs of the cards to the colors on the pockets. Some of the cards may be marked with several colors to indicate a number of correct matches. EXAMPLE: Gills may be matched with fish, sharks and seahorses. Blowhole may be matched with whales and dolphins.

Lesson Number: 24
Skills: Inquiry,
Manipulative

FUN ACTIVITIES

LESSON CONCEPT

Marine vertebrates have basic characteristics.

OBJECTIVE

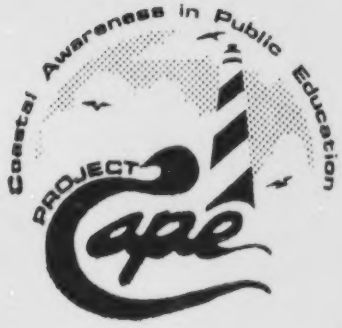
The learner will become familiar with the characteristics of some marine vertebrates by solving riddles and coloring pictures of animals.

MATERIALS

copies of supplementary sheets 24.. .nd 24.2 for each child

ACTIVITY

Use these puzzles as a culminating review of the information taught in the lessons on The Riddle Coloring Book.



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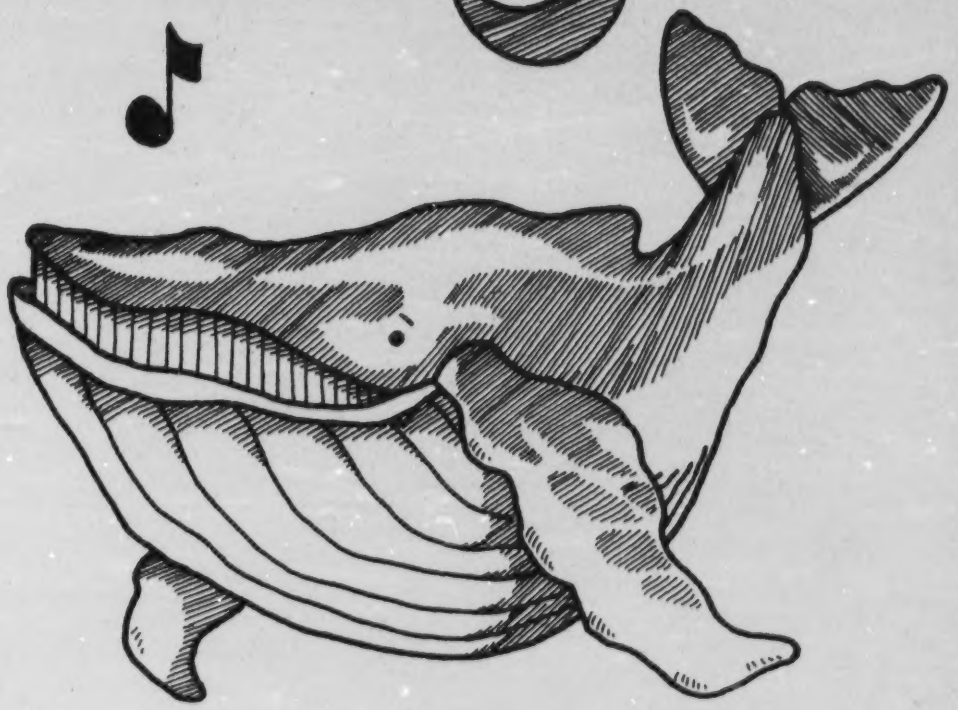
Longfin



by Francene Kelly

illustrated by Alta Steed

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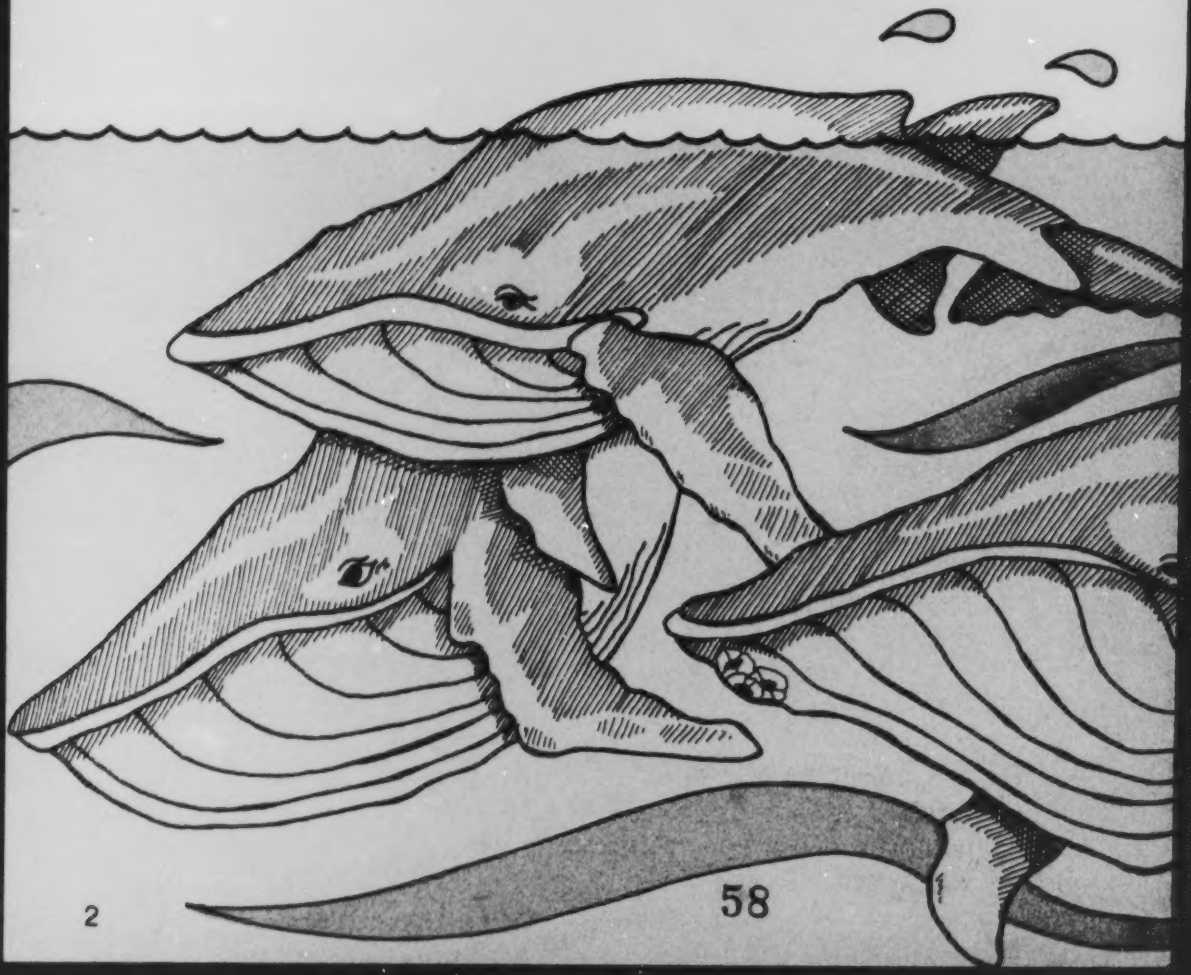
Longfin

by Francene Kelly

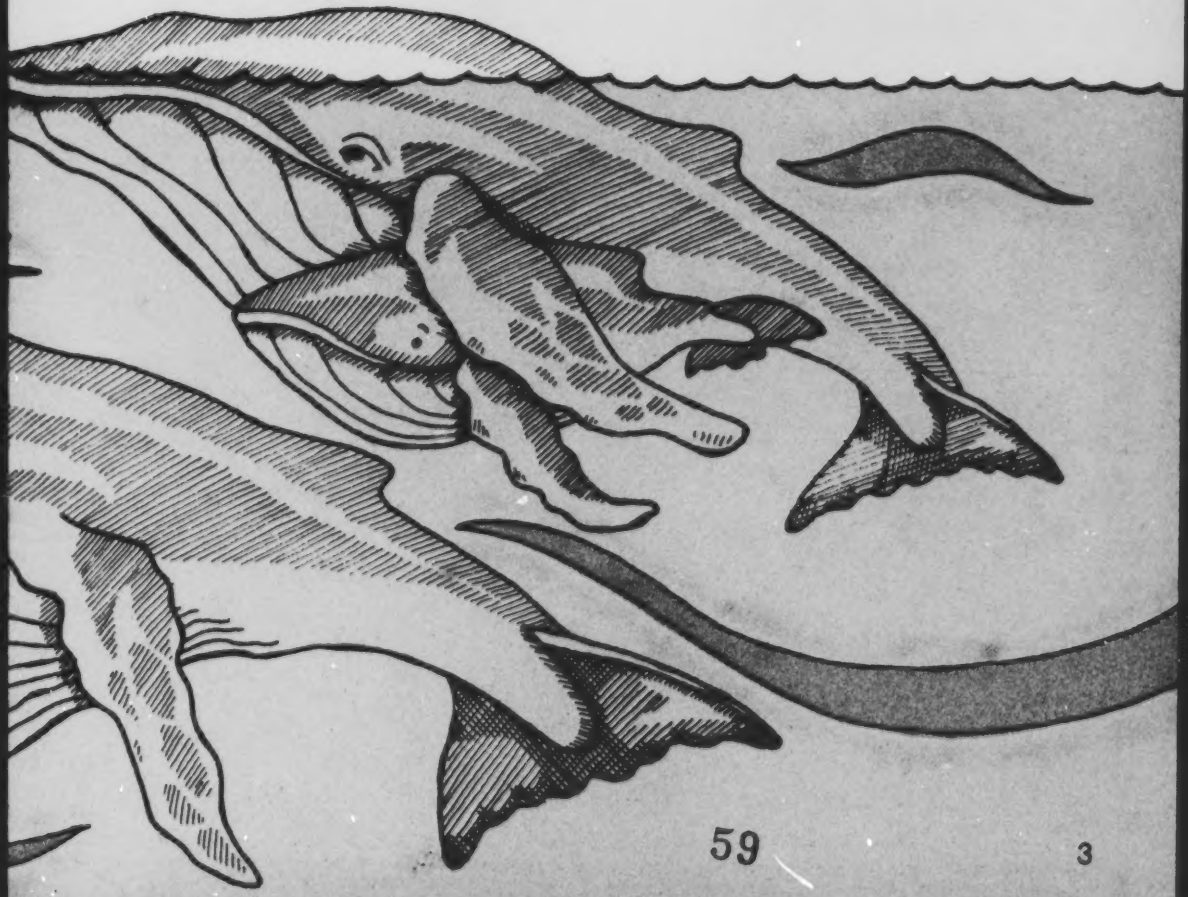
illustrated by Alta Steed

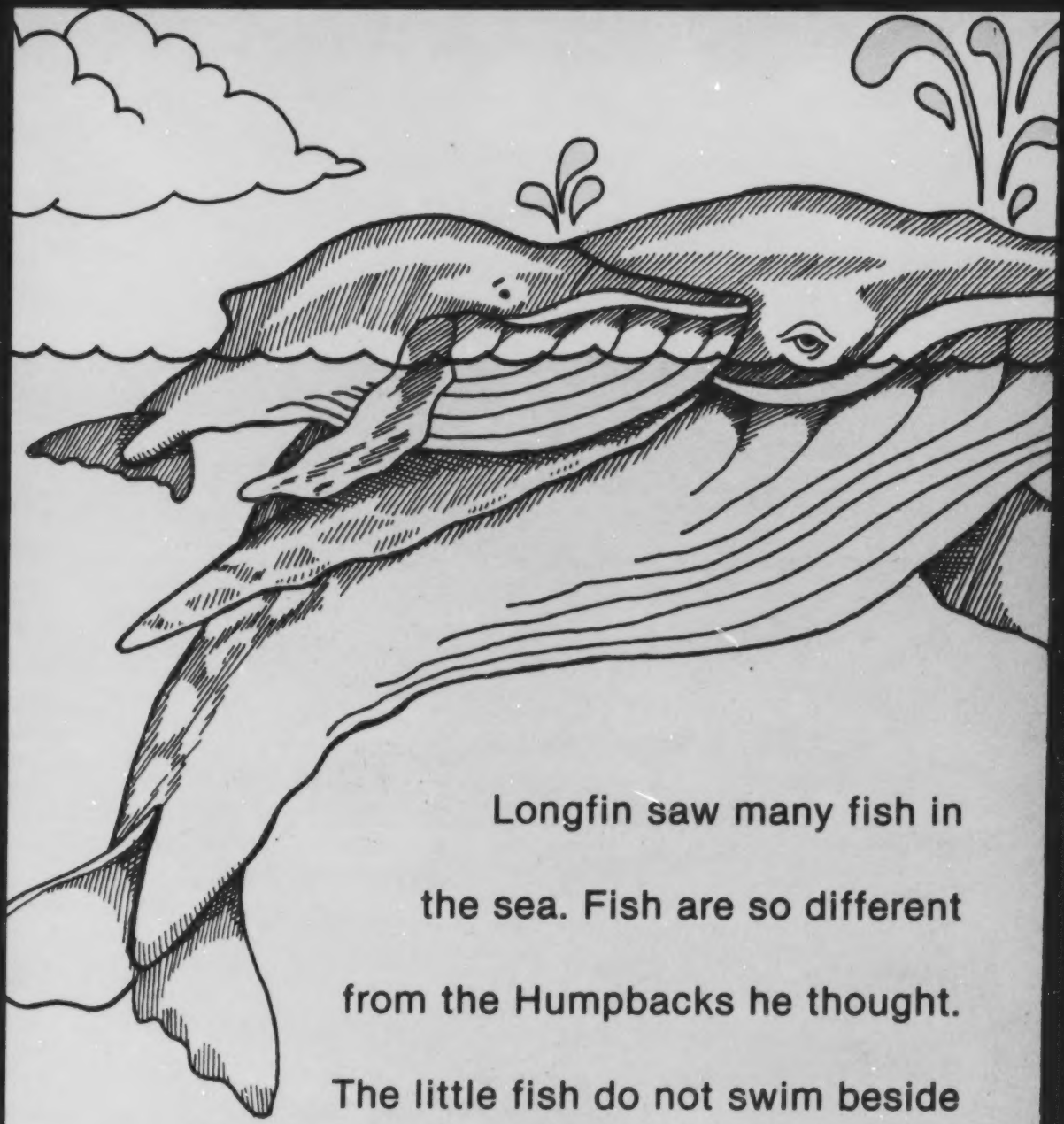
A Project CAPE Story Book
June, 1981

A large herd of Humpback Whales was swimming north. The Humpbacks were looking for cooler waters.



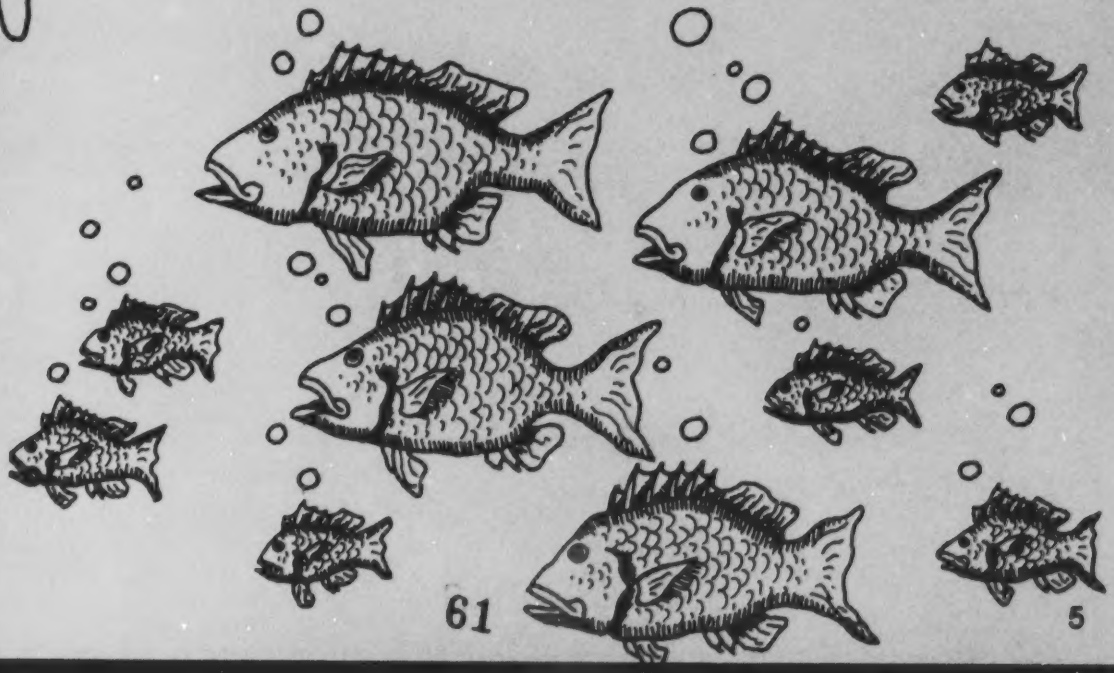
Longfin was a new calf. He was careful to swim close to his mother. She gave him milk to drink. Longfin grew larger every day.

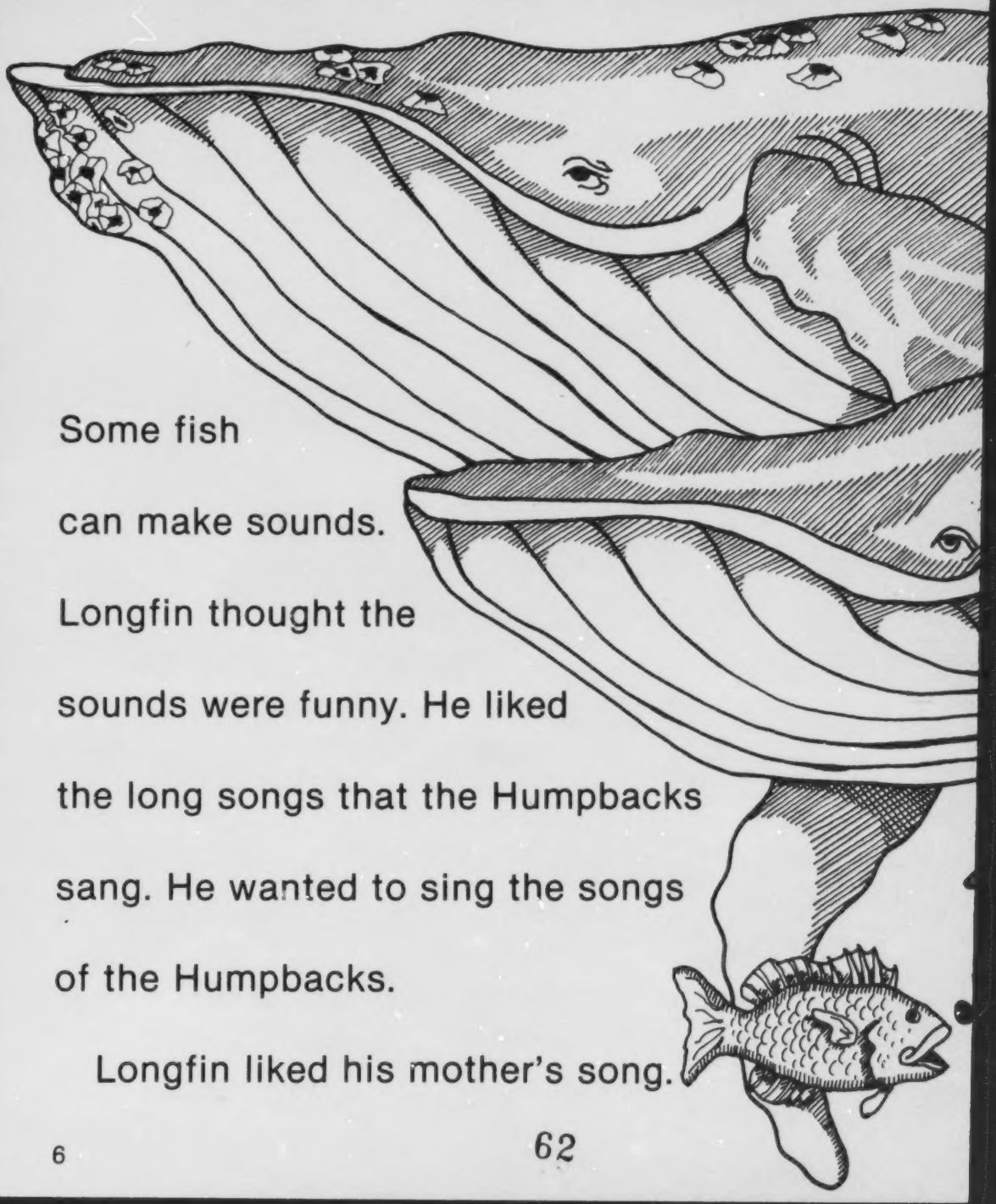




Longfin saw many fish in the sea. Fish are so different from the Humpbacks he thought. The little fish do not swim beside their mothers. They do not drink warm milk.

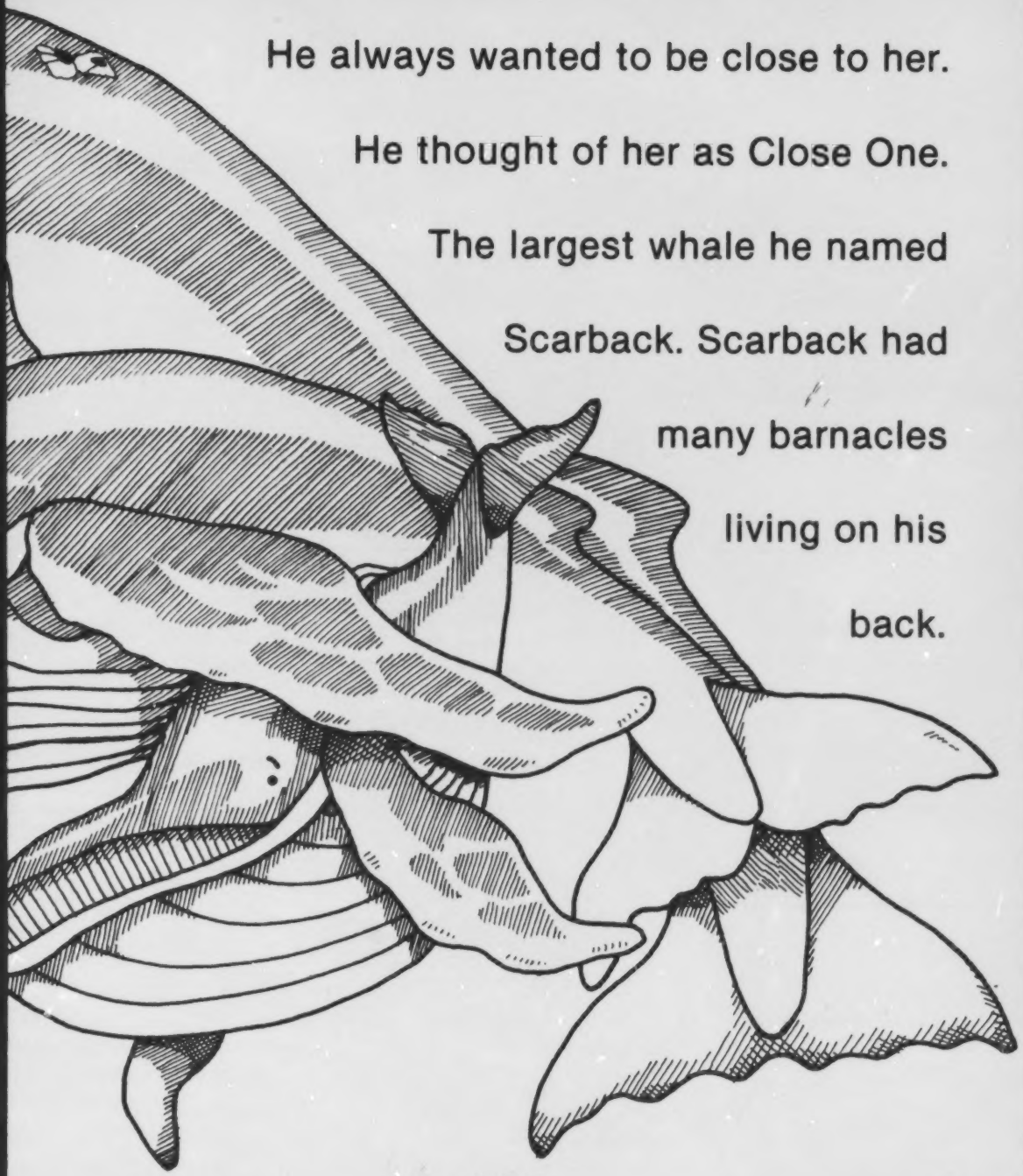
The fish do not even have a blowhole. They do not have to breathe air. Fish have gills that let them remove oxygen from the water.





Some fish
can make sounds.
Longfin thought the
sounds were funny. He liked
the long songs that the Humpbacks
sang. He wanted to sing the songs
of the Humpbacks.

Longfin liked his mother's song.



He always wanted to be close to her.

He thought of her as Close One.

The largest whale he named

Scarback. Scarback had

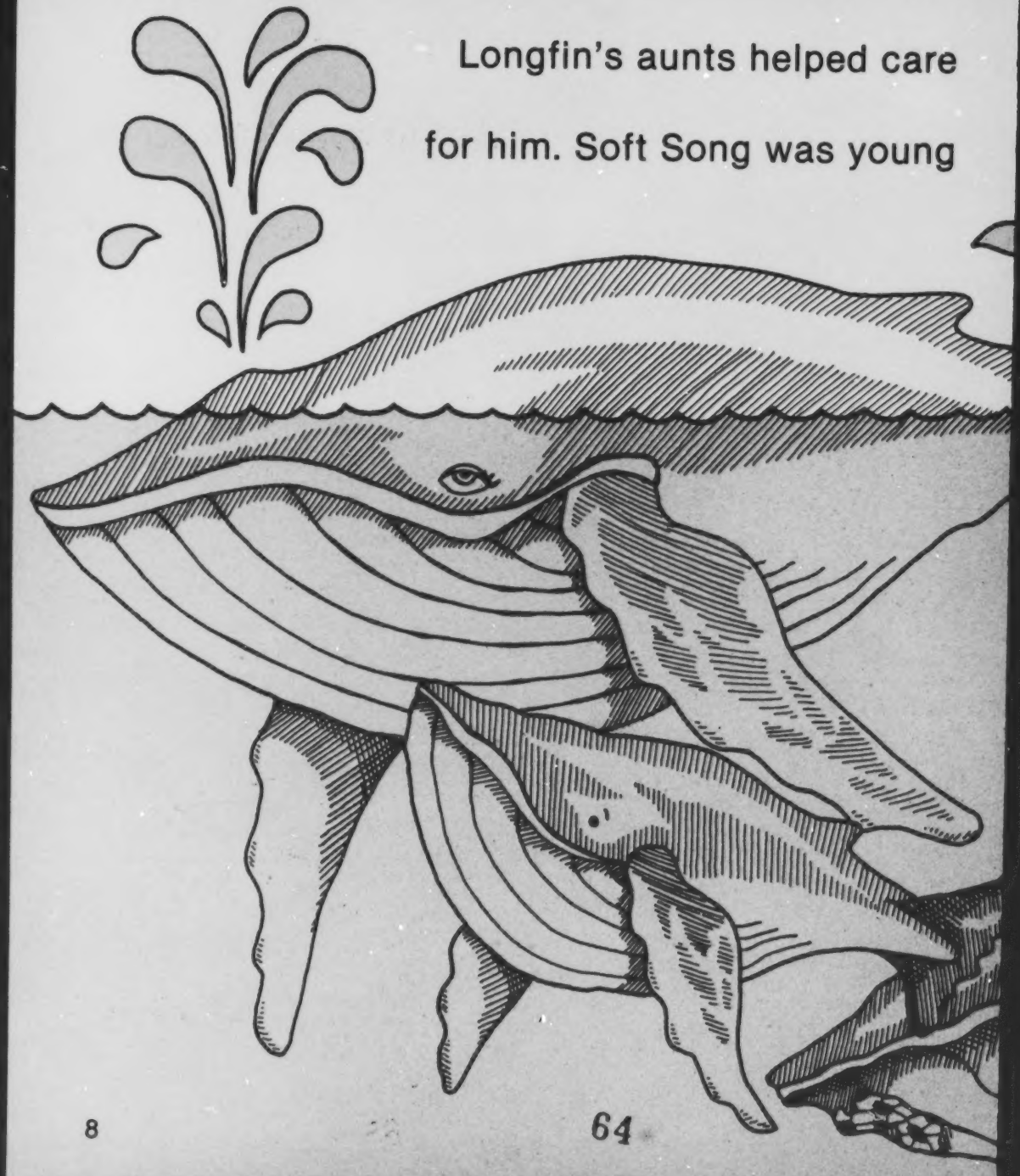
many barnacles

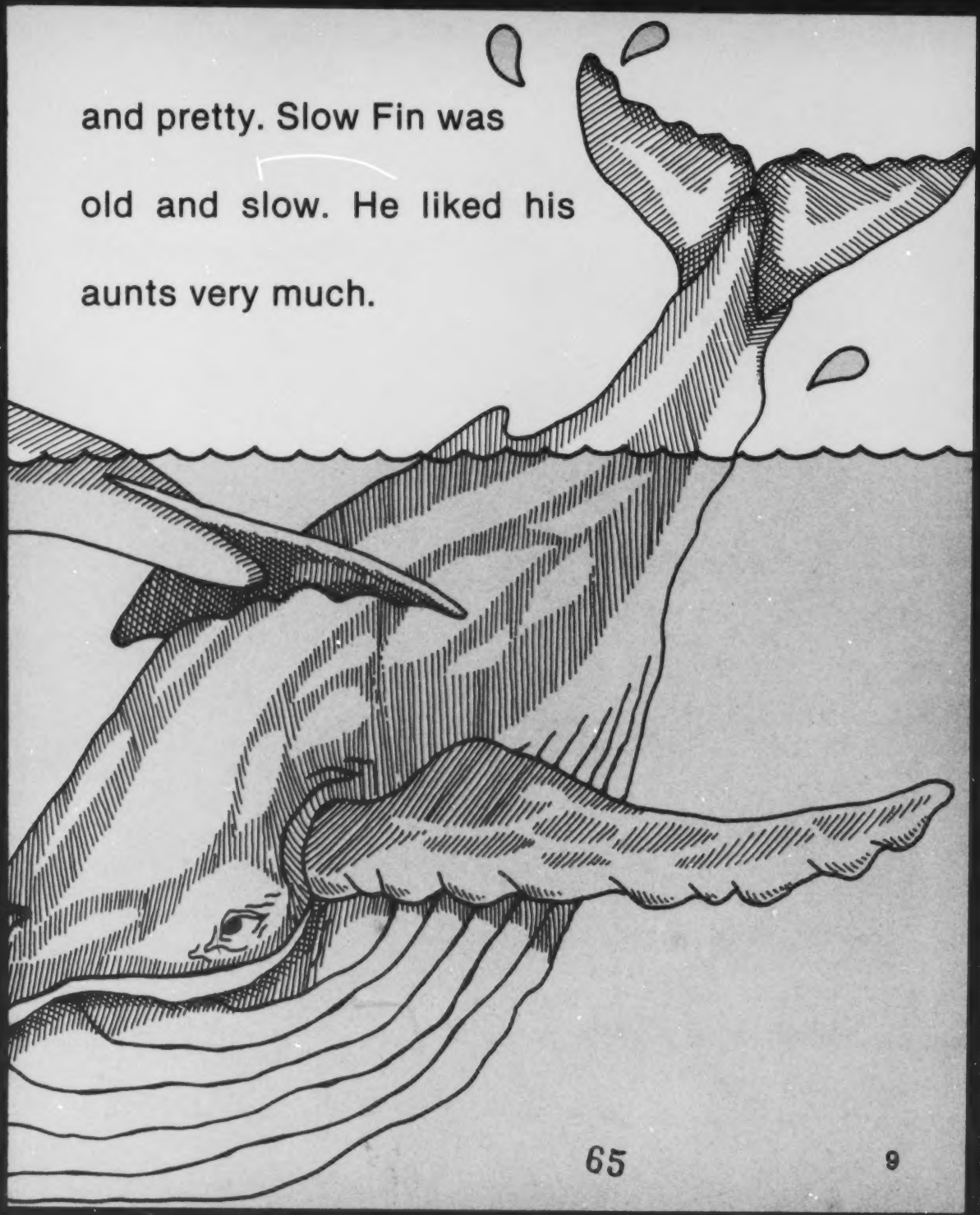
living on his

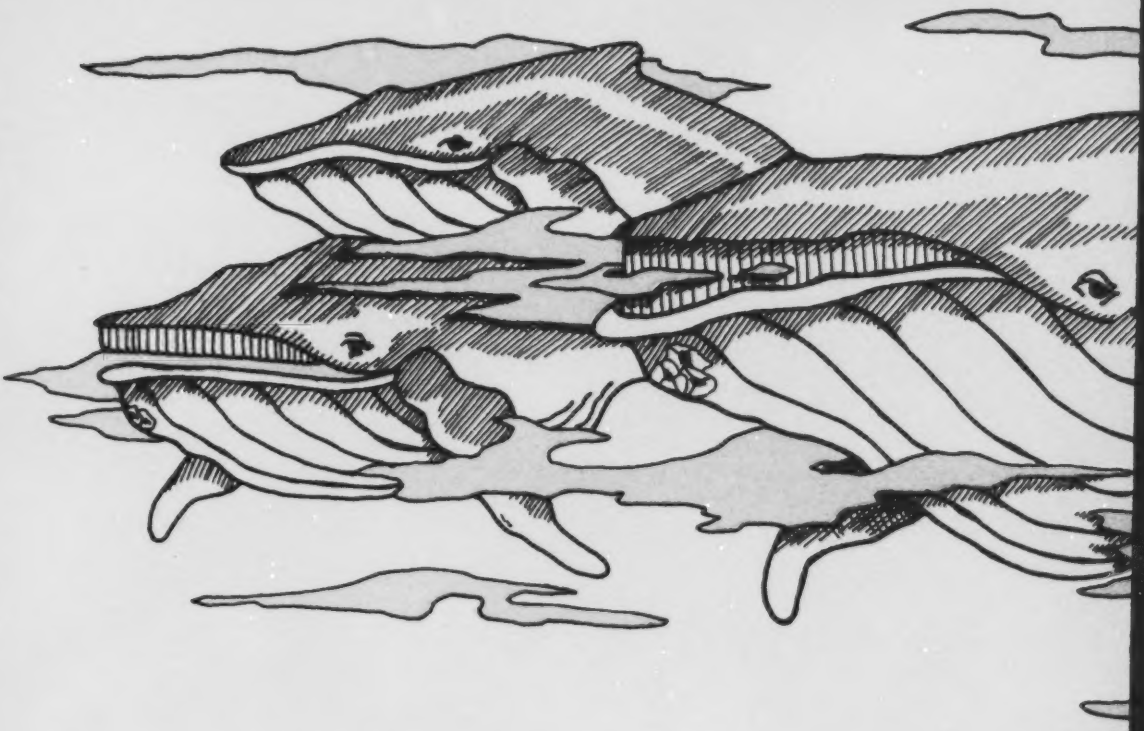
back.

Longfin's aunts helped care

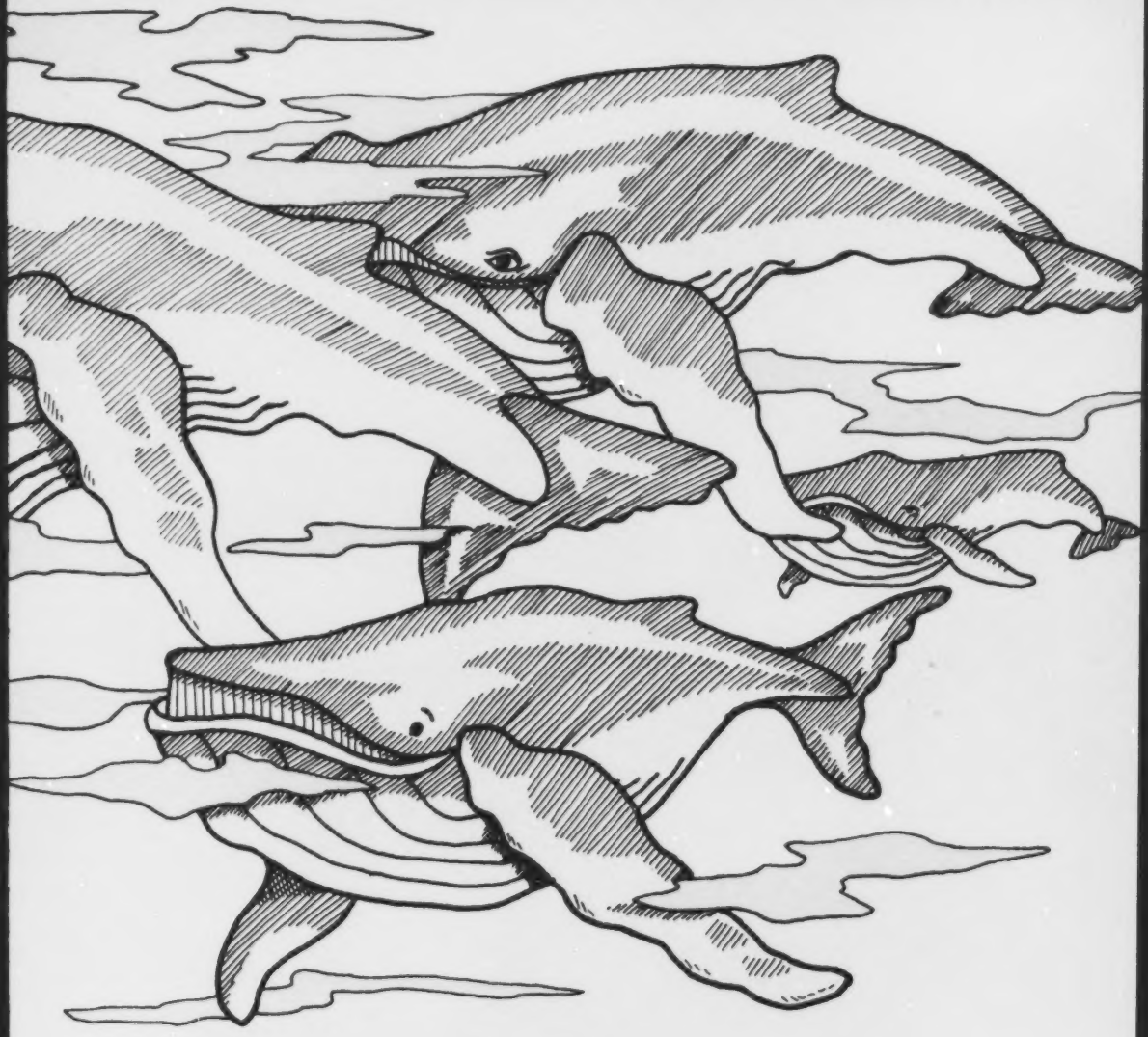
for him. Soft Song was young




and pretty. Slow Fin was
old and slow. He liked his
aunts very much.

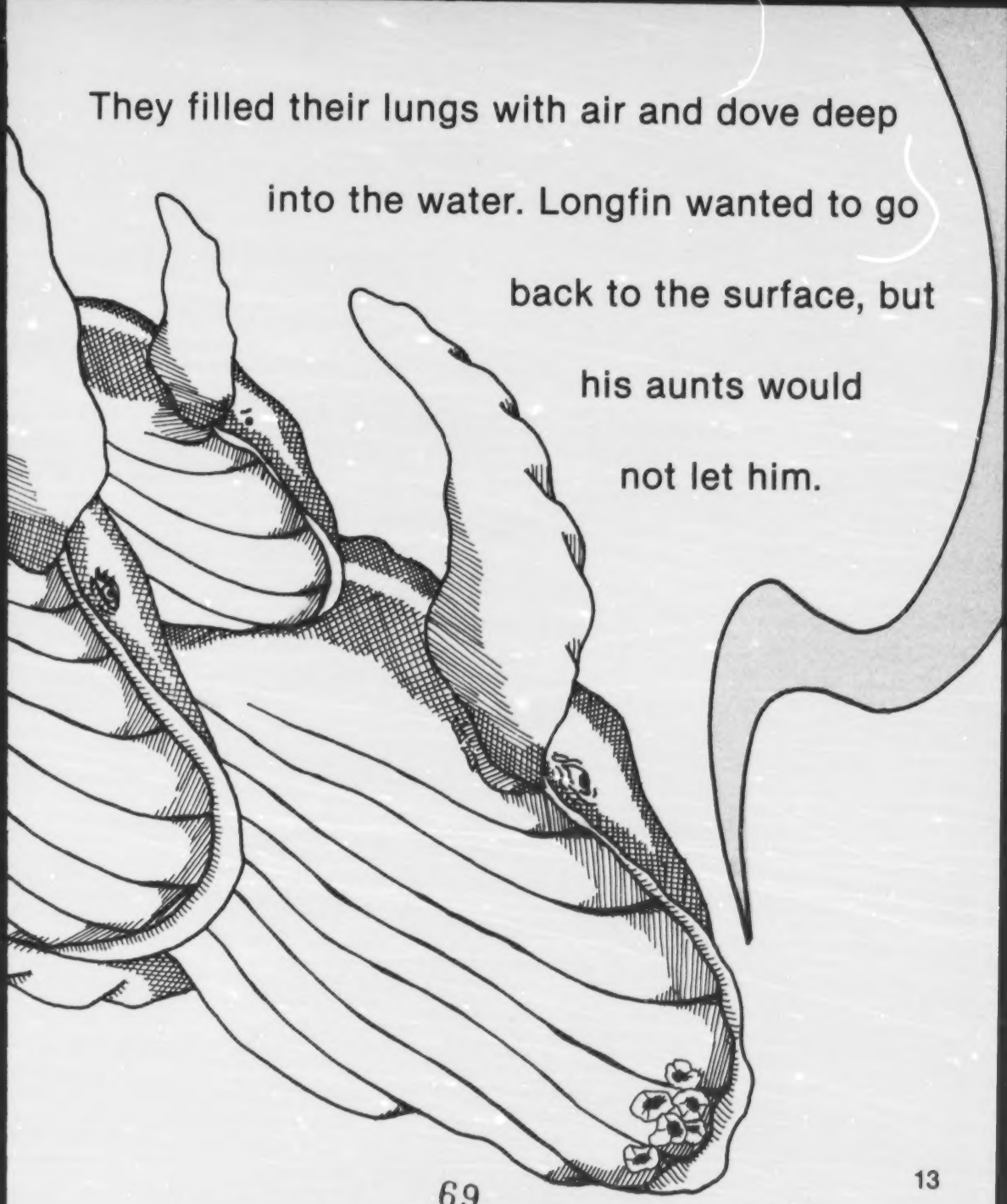


The herd swam north for many miles. Longfin could feel the cool water. It became cooler every day. The cool water was full of krill. Longfin thought this water was krill soup! He opened his mouth and let the water in. Then he



closed it and pushed the water out. The krill was caught in his baleen. He ate until he was full.

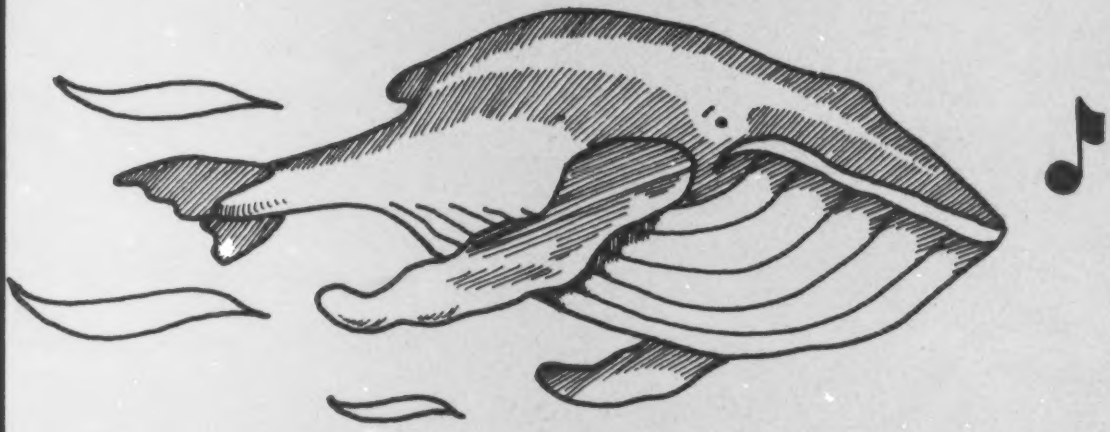
One day Longfin and his aunts were feeding on krill. Scarback's loud song called to them. They swam as fast as they could go.


They filled their lungs with air and dove deep into the water. Longfin wanted to go back to the surface, but his aunts would not let him.

There was something very large floating in the water. Longfin saw a metal arrow fly through the water. He heard Slow Fin call out. Her song was full of fear and pain.

Slow Fin could no longer swim. The arrow stuck in her and held her back. She was taken by the whaling ship.

Longfin swam for the safety of the Humpbacks. But he could not find the herd anywhere. He knew that he must find the cold water. There he would find krill and maybe the Humpbacks.

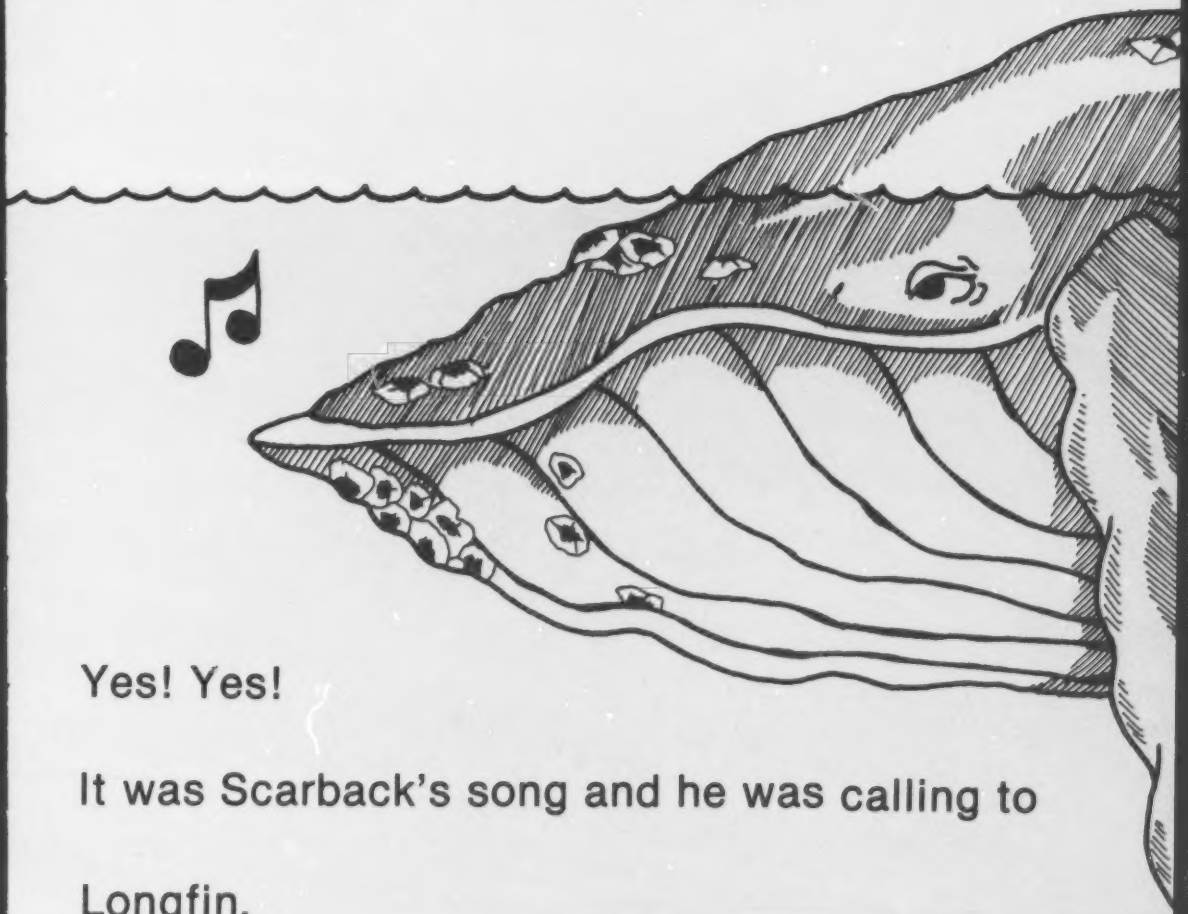


Longfin sang as he swam. His song was slow and deep. Longfin was calling to the Humpbacks.

All of a sudden

Longfin heard another song! He

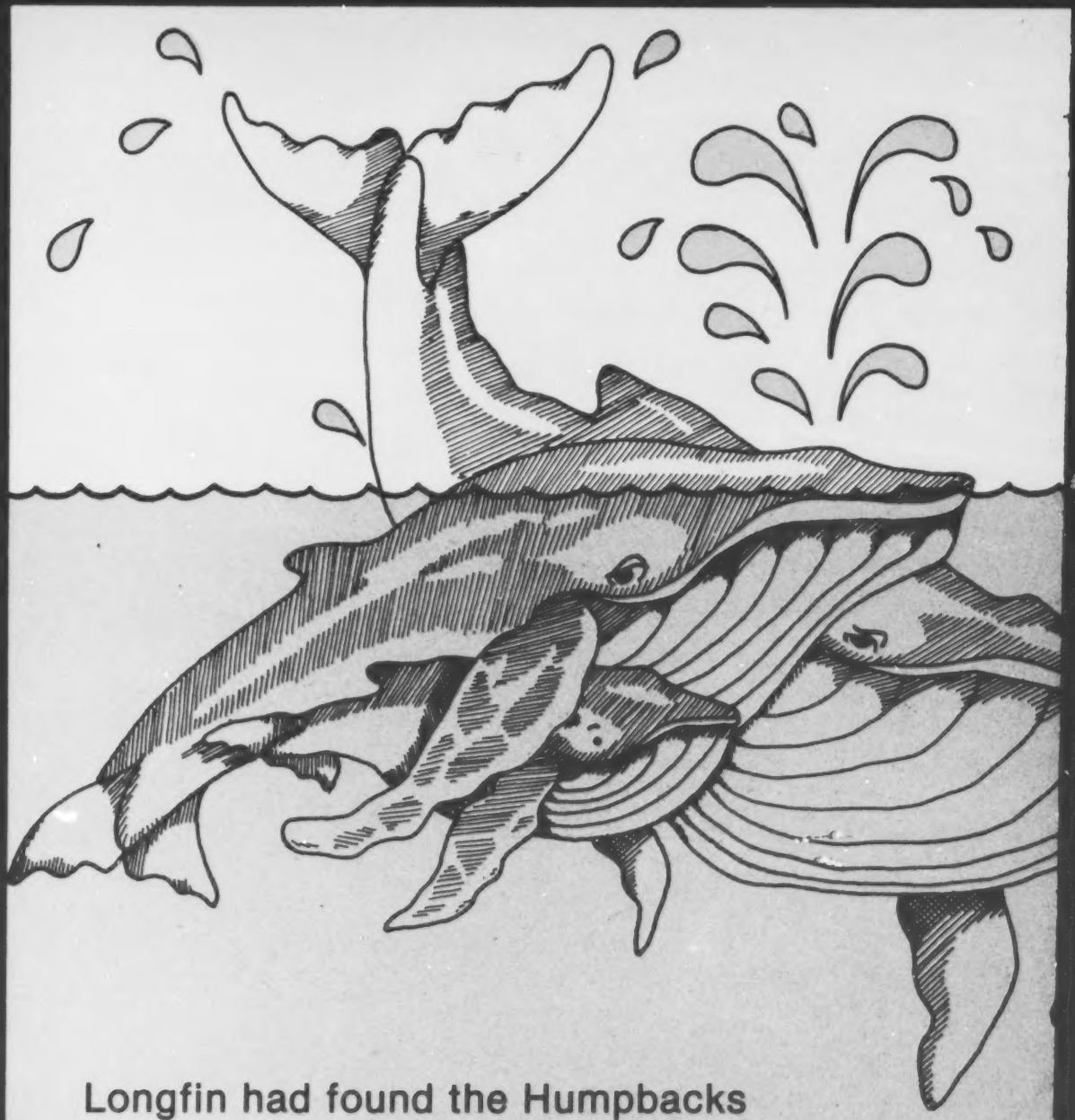
listened carefully. Could it be Scarback's song?



Yes! Yes!

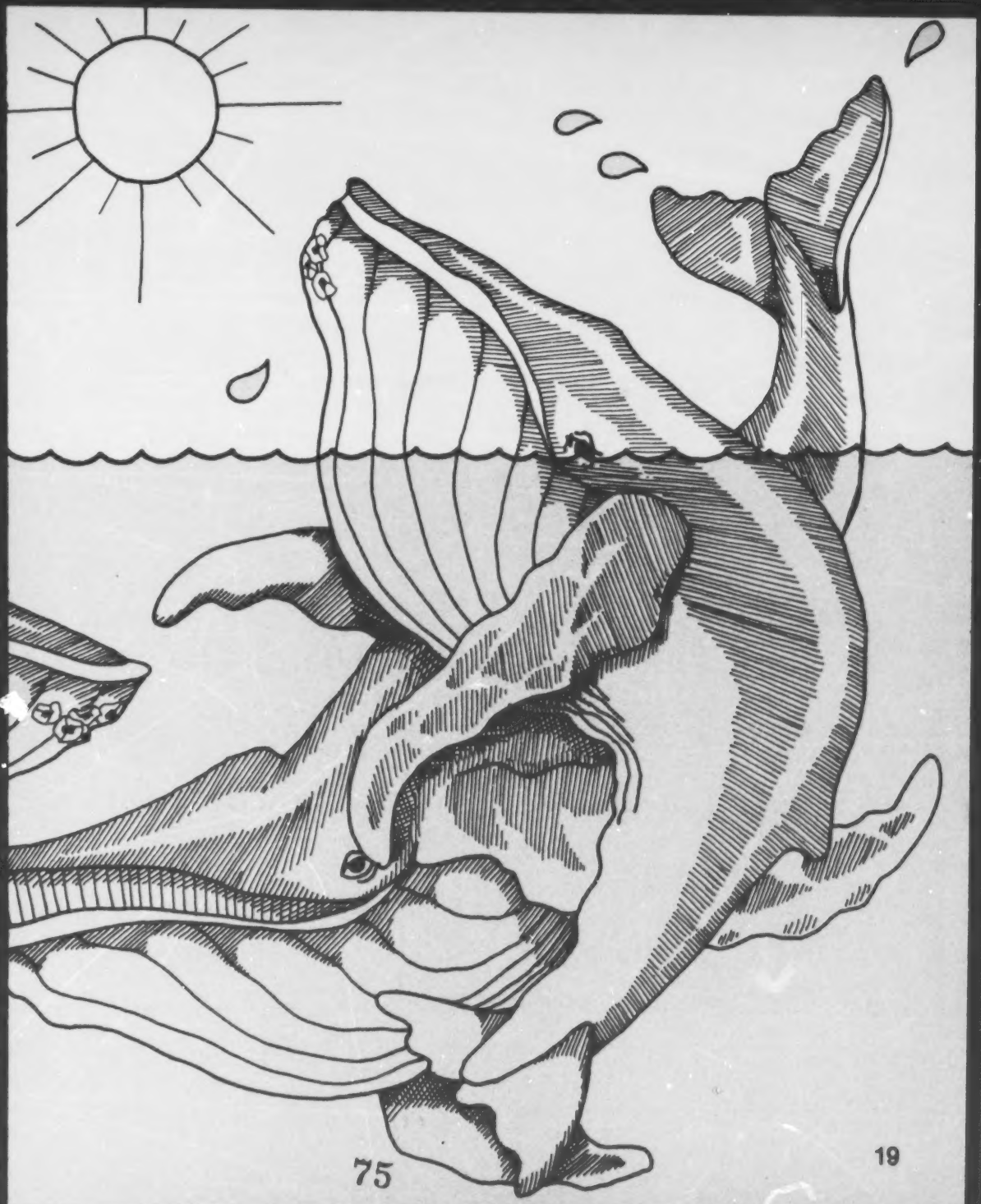
It was Scarback's song and he was calling to

Longfin.



Longfin had found the Humpbacks

at last. Longfin was safe again.



QUESTIONS

1. What kind of whale was Longfin?

2. Who helped care for Longfin?

3. What happened to Slowfin?

4. When Longfin was young what did he eat?

5. When Longfin grew older what did he eat?

6. What did Longfin find?

7. How do you think Longfin felt when he became lost?

8. Why did Longfin sing songs?

9. What do you think Longfin would have done if he had not found the other whales?

10. Can you think of another title for the story?

11. Suggest another way the story might have ended?

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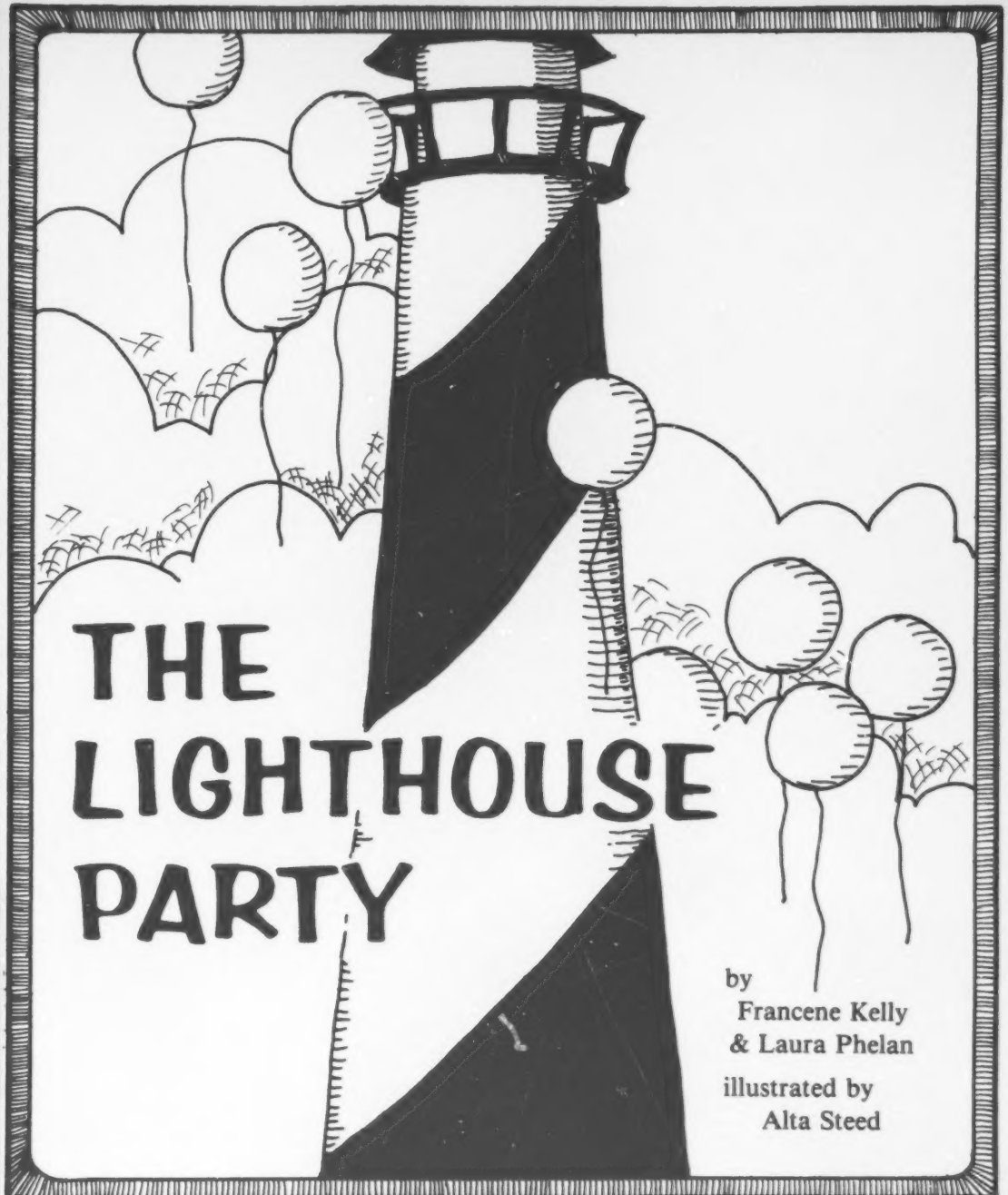
THE
LIGHTHOUSE
PARTY
by
Francene Kelly
& Laura Phelan
illustrated by
Alta Steed

THE LIGHTHOUSE PARTY

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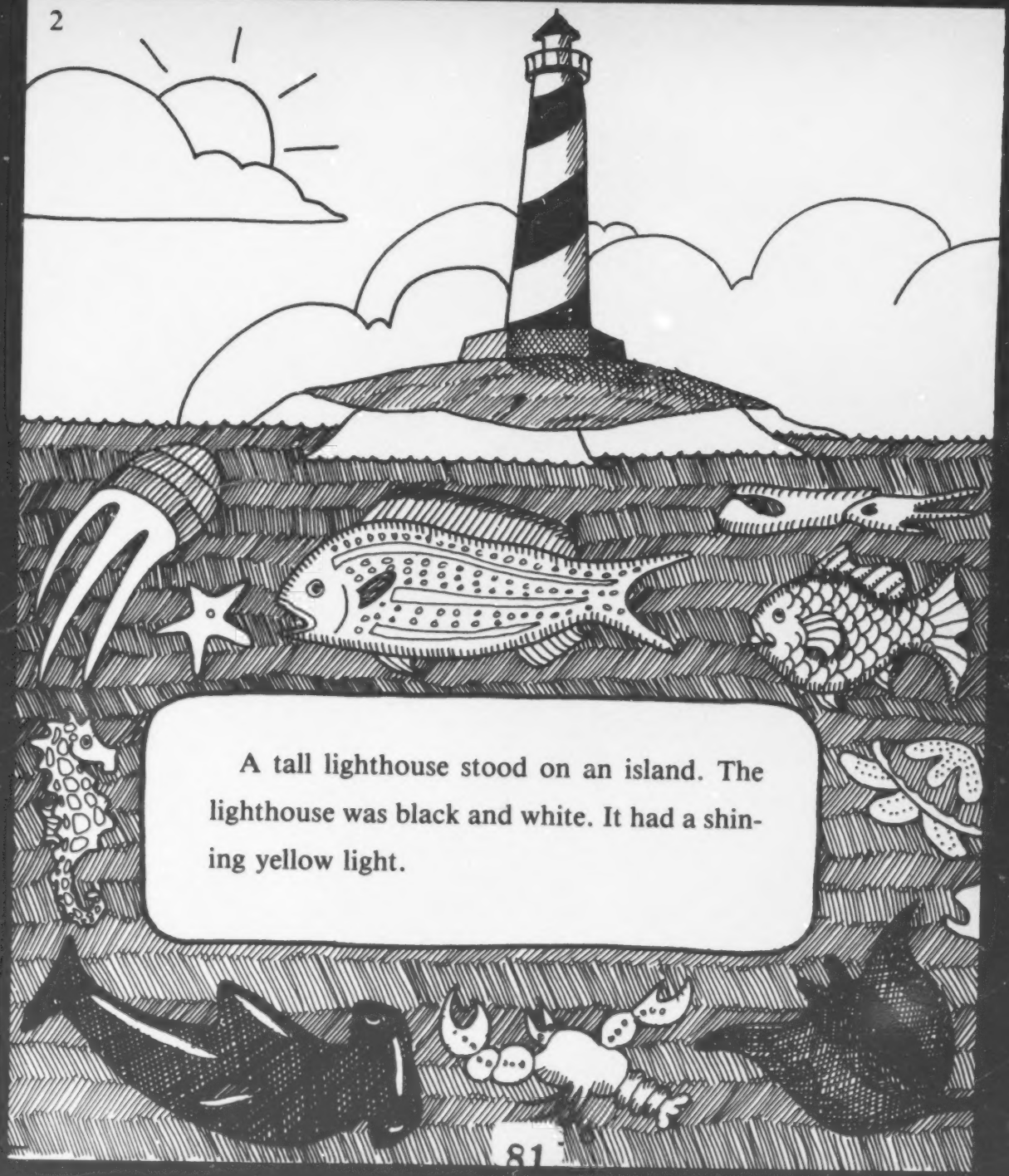
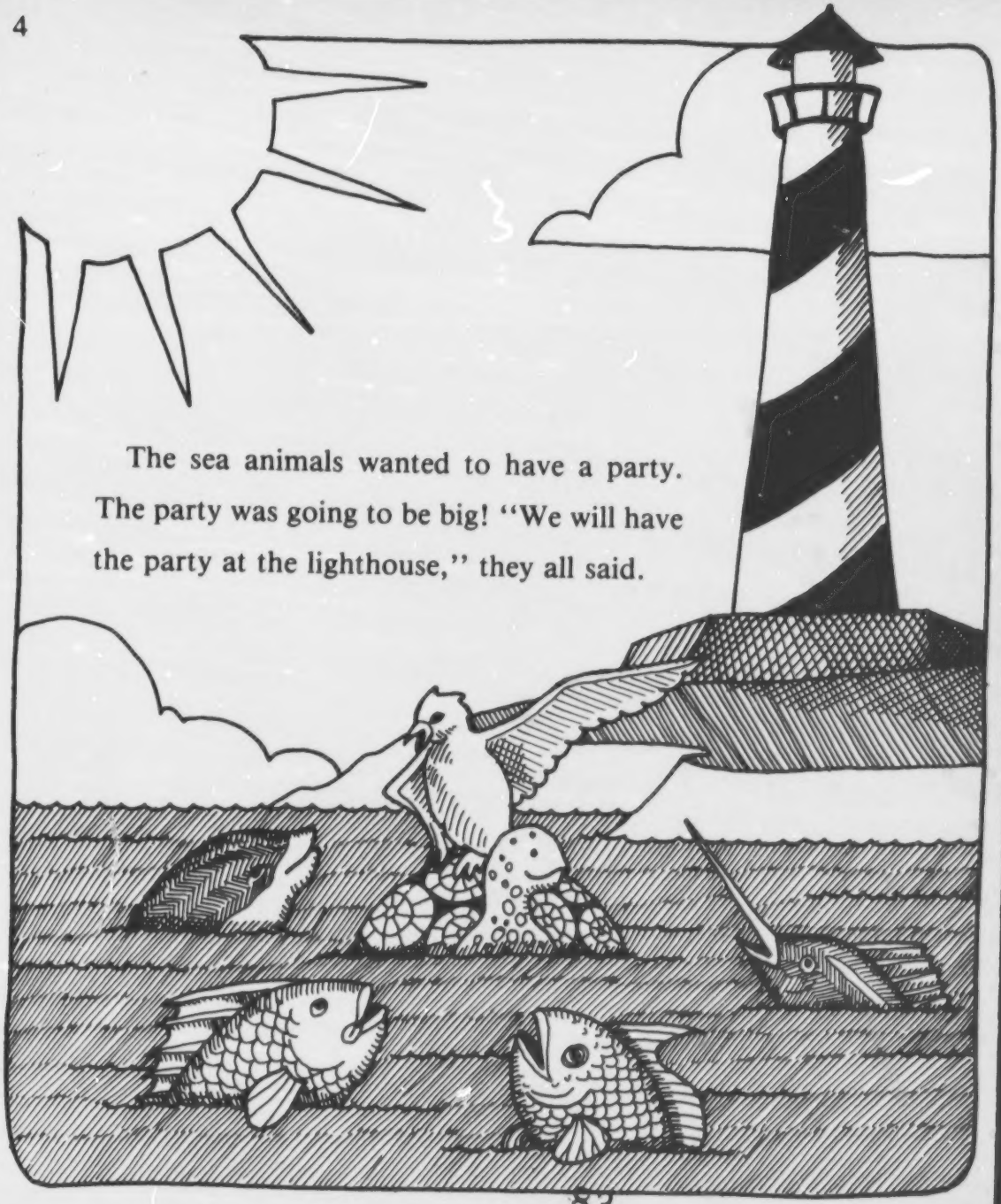
A Project CAPE Story Book
June, 1982

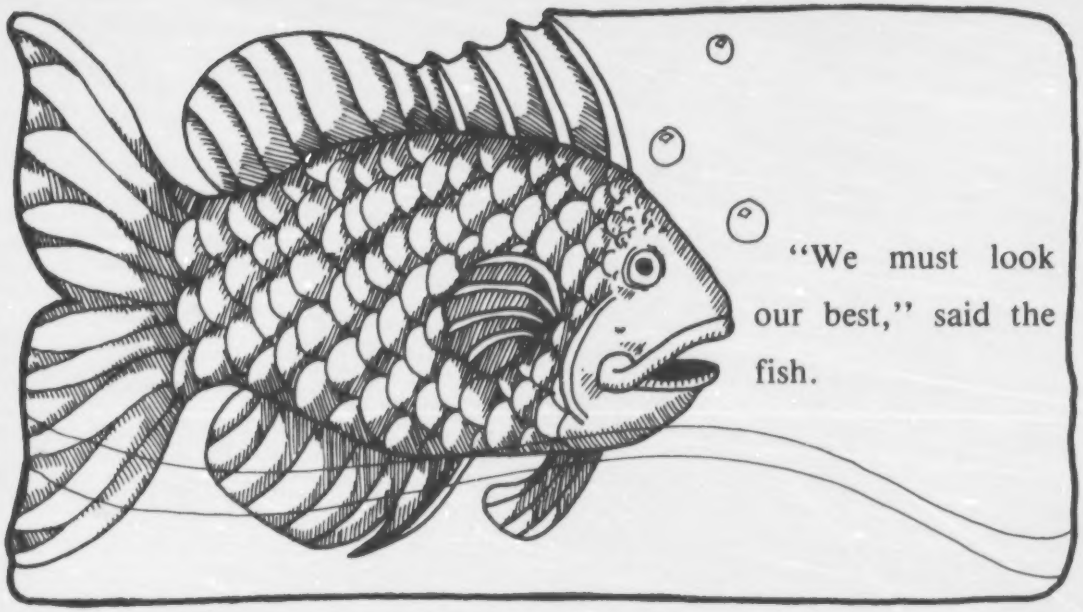


A tall lighthouse stood on an island. The lighthouse was black and white. It had a shining yellow light.

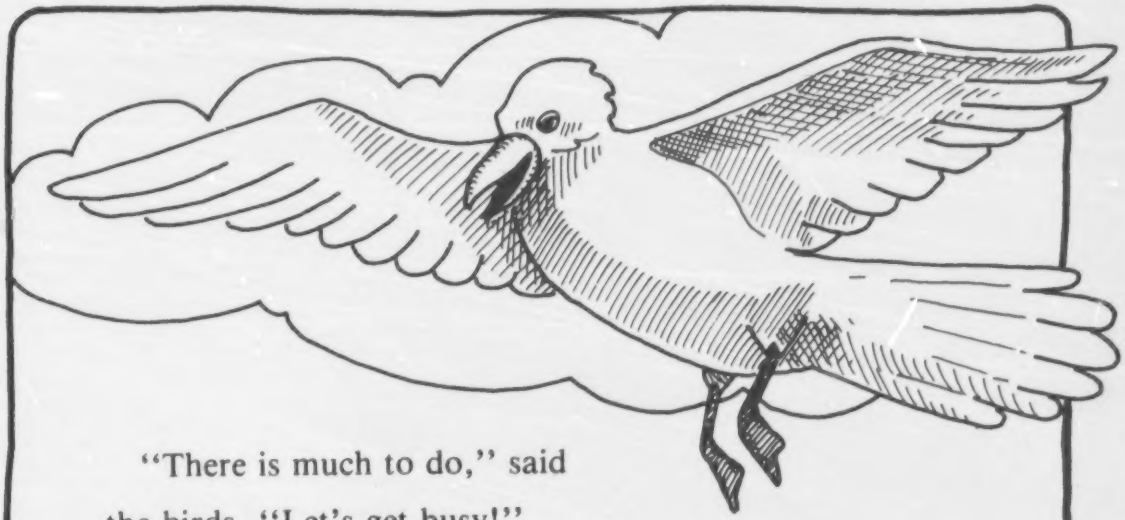
Sea animals liked the lighthouse. They liked the shining yellow light. They would swim around and around the lighthouse.



The sea animals wanted to have a party. The party was going to be big! "We will have the party at the lighthouse," they all said.

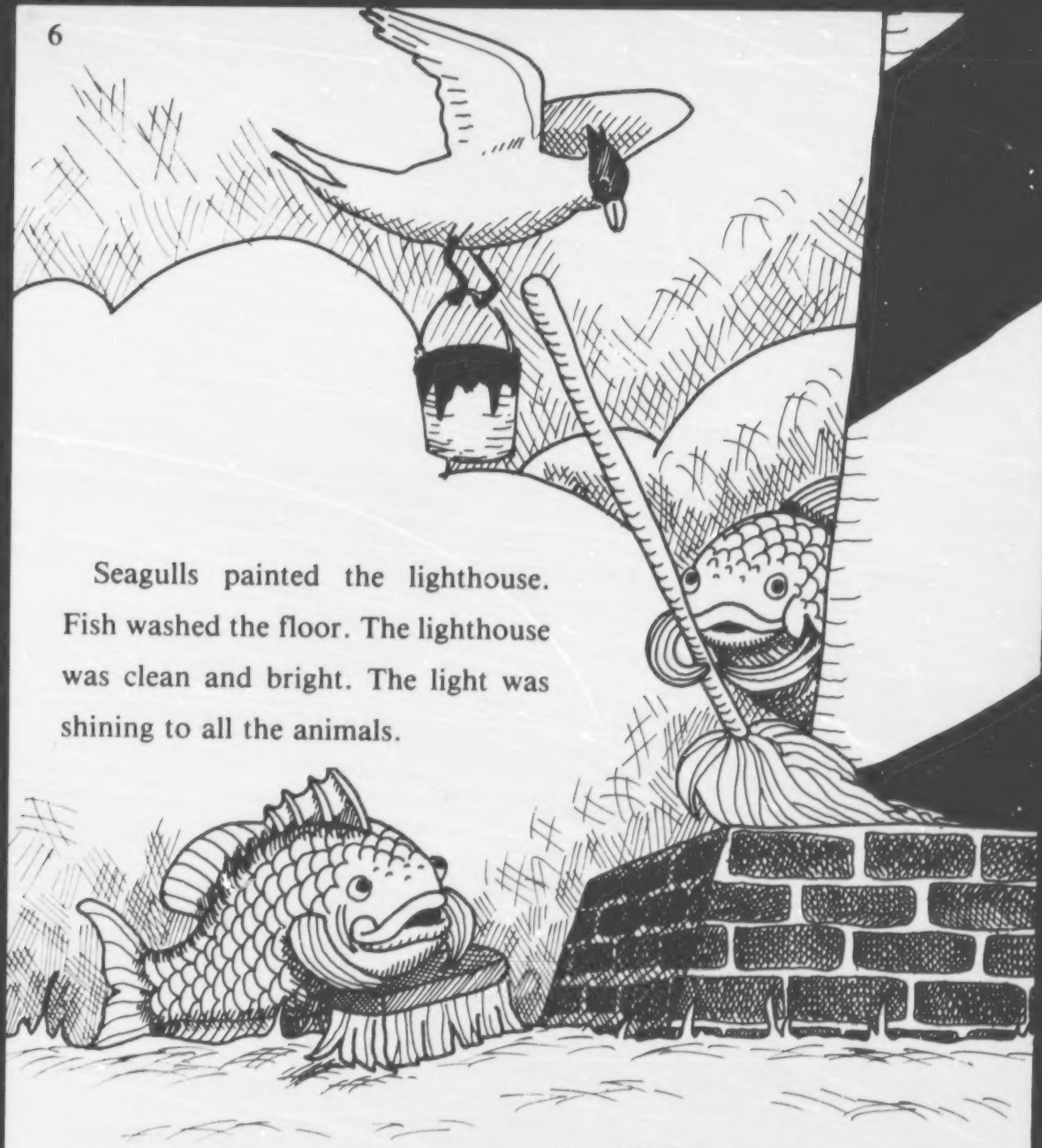


"We must look our best," said the fish.



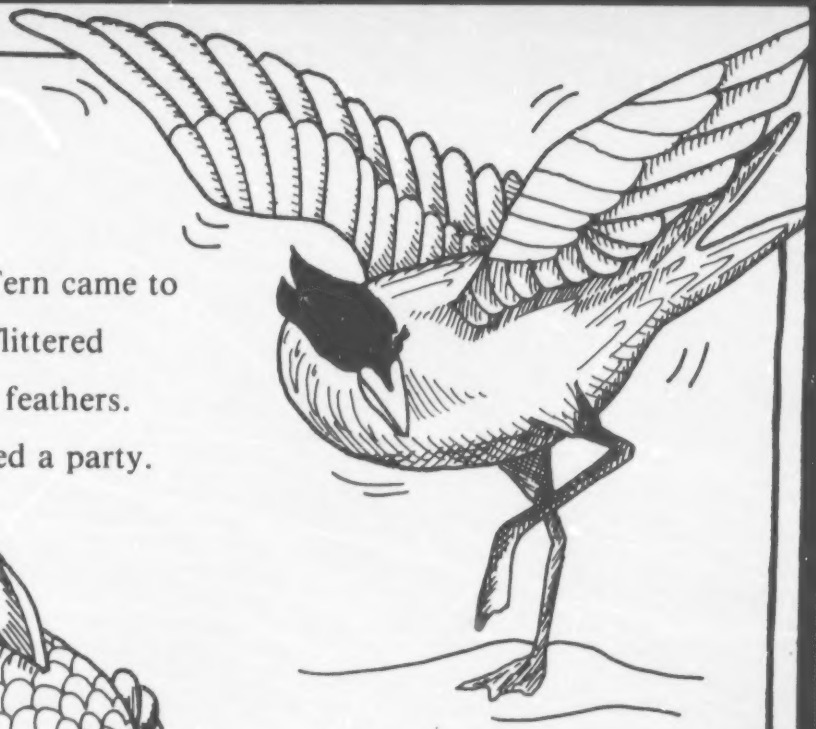
"There is much to do," said the birds. "Let's get busy!" they all said.

6

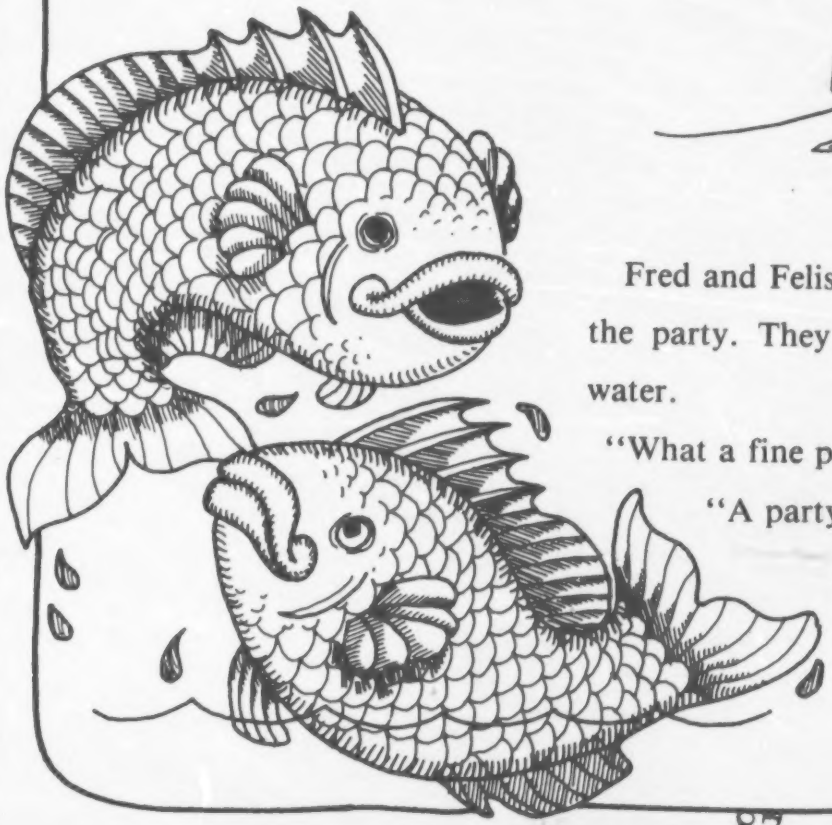


Seagulls painted the lighthouse. Fish washed the floor. The lighthouse was clean and bright. The light was shining to all the animals.

7



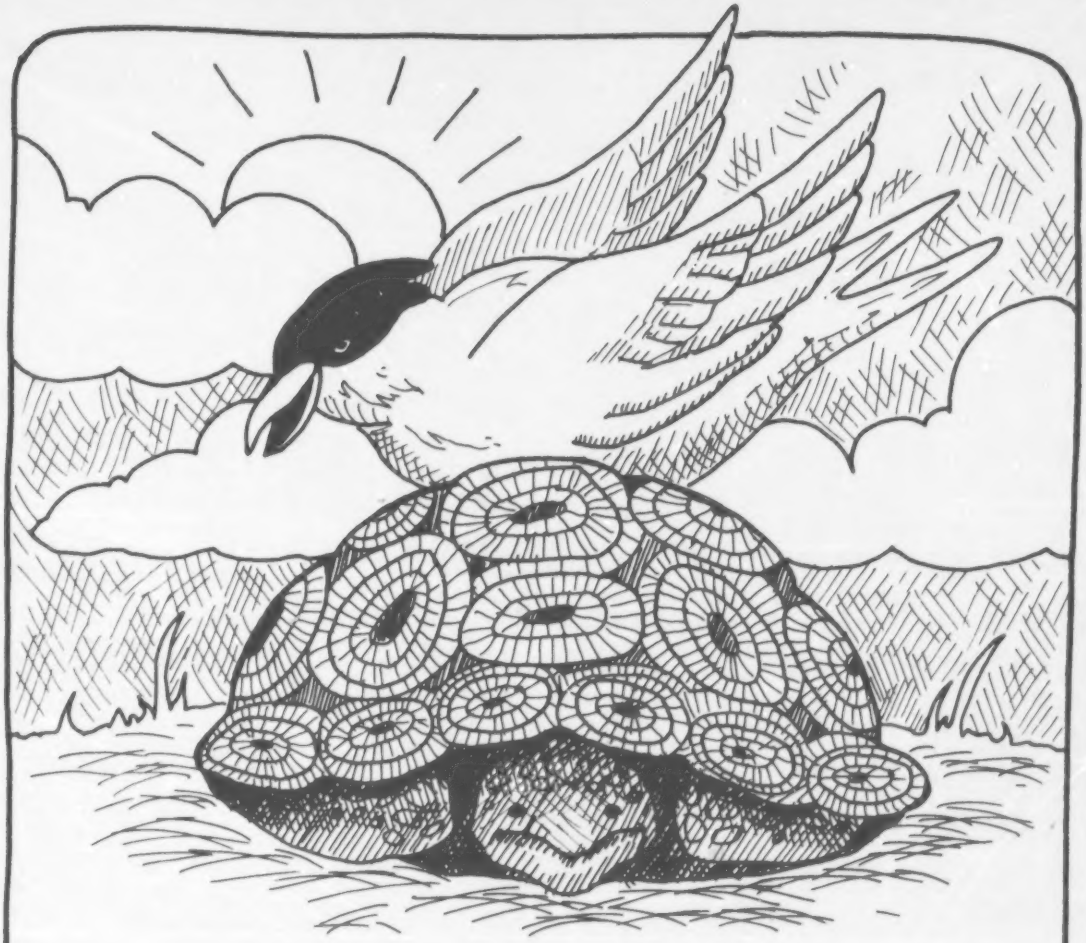
Miss Tweet Tern came to the party. She flittered and fluffed her feathers. Tweet Tern loved a party.



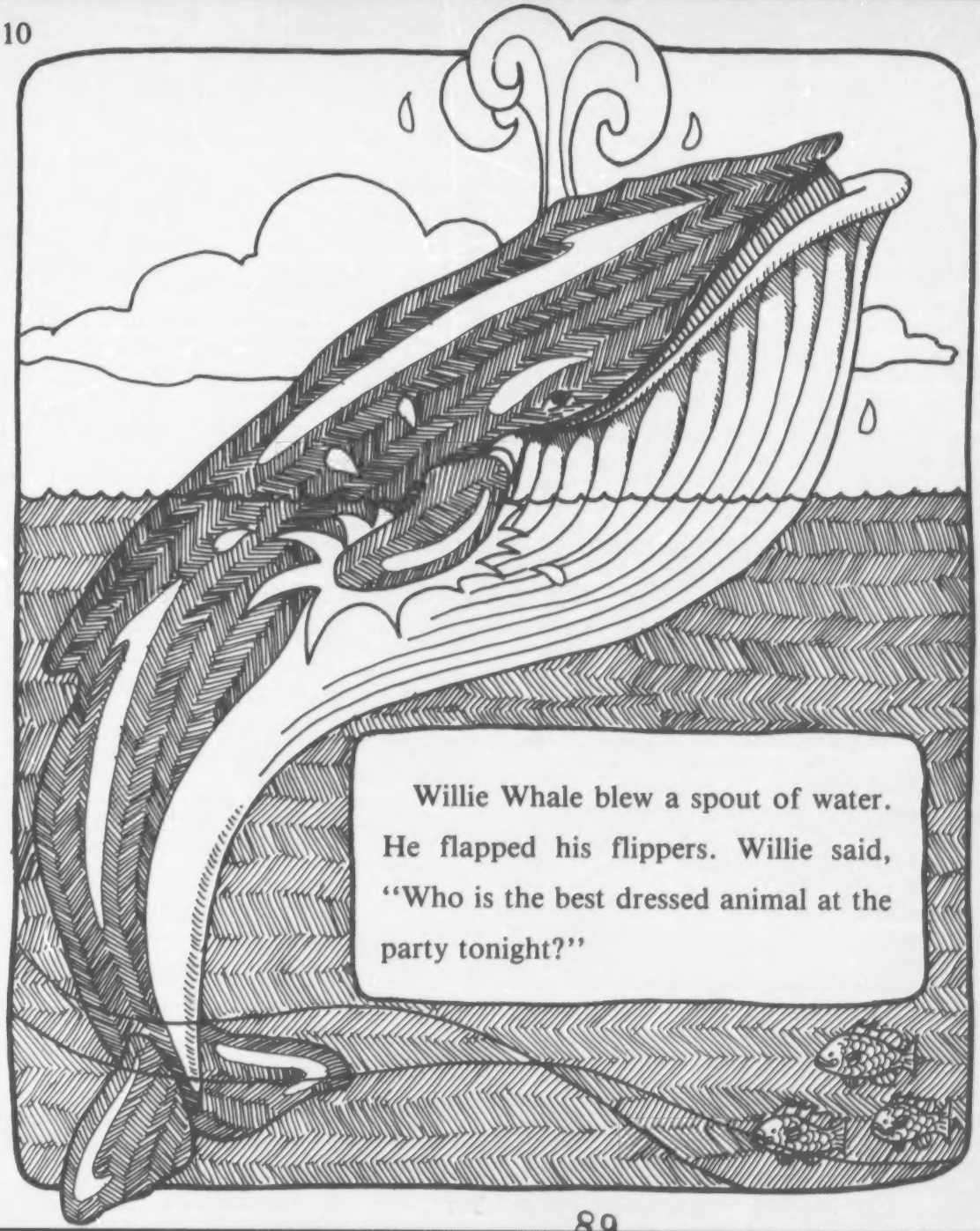
Fred and Felisha Fish swam to the party. They splashed in the water.

"What a fine party," said Fred.

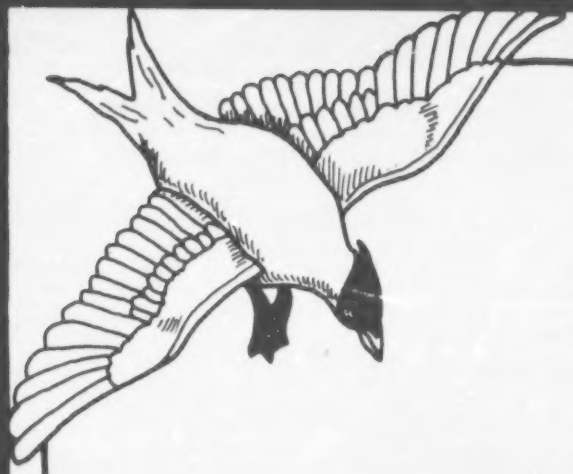
"A party is much fun," said Felisha.



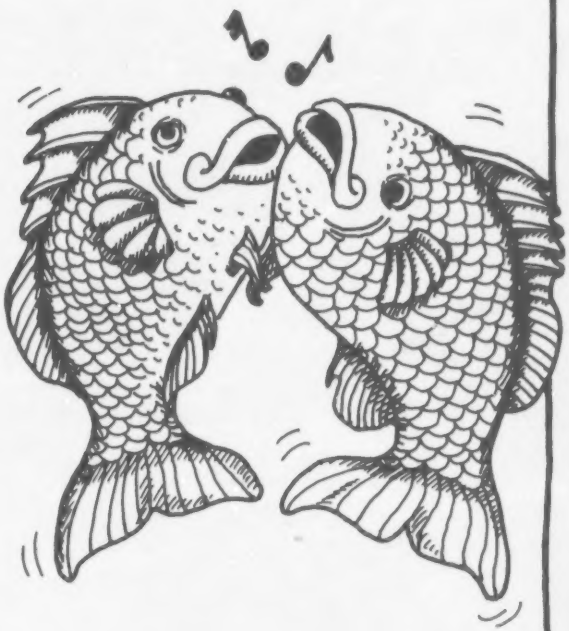
Tony Turtle was the last to come. His shell was heavy and he could not go very fast. Miss Tweet Tern asked Tony to dance. He was so shy, he hid in his shell.



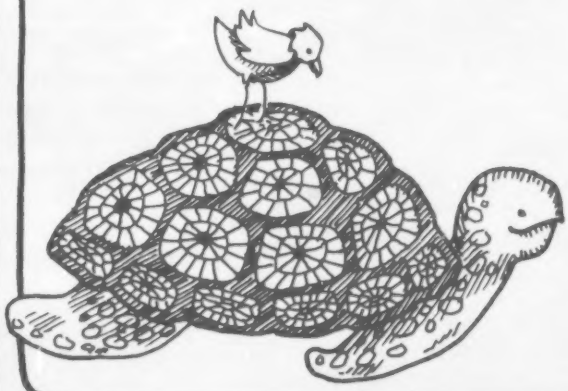
Willie Whale blew a spout of water. He flapped his flippers. Willie said, "Who is the best dressed animal at the party tonight?"



Tweet Tern sang, "Why me! My feathers are pretty and help me fly. When it is raining, they keep me dry."

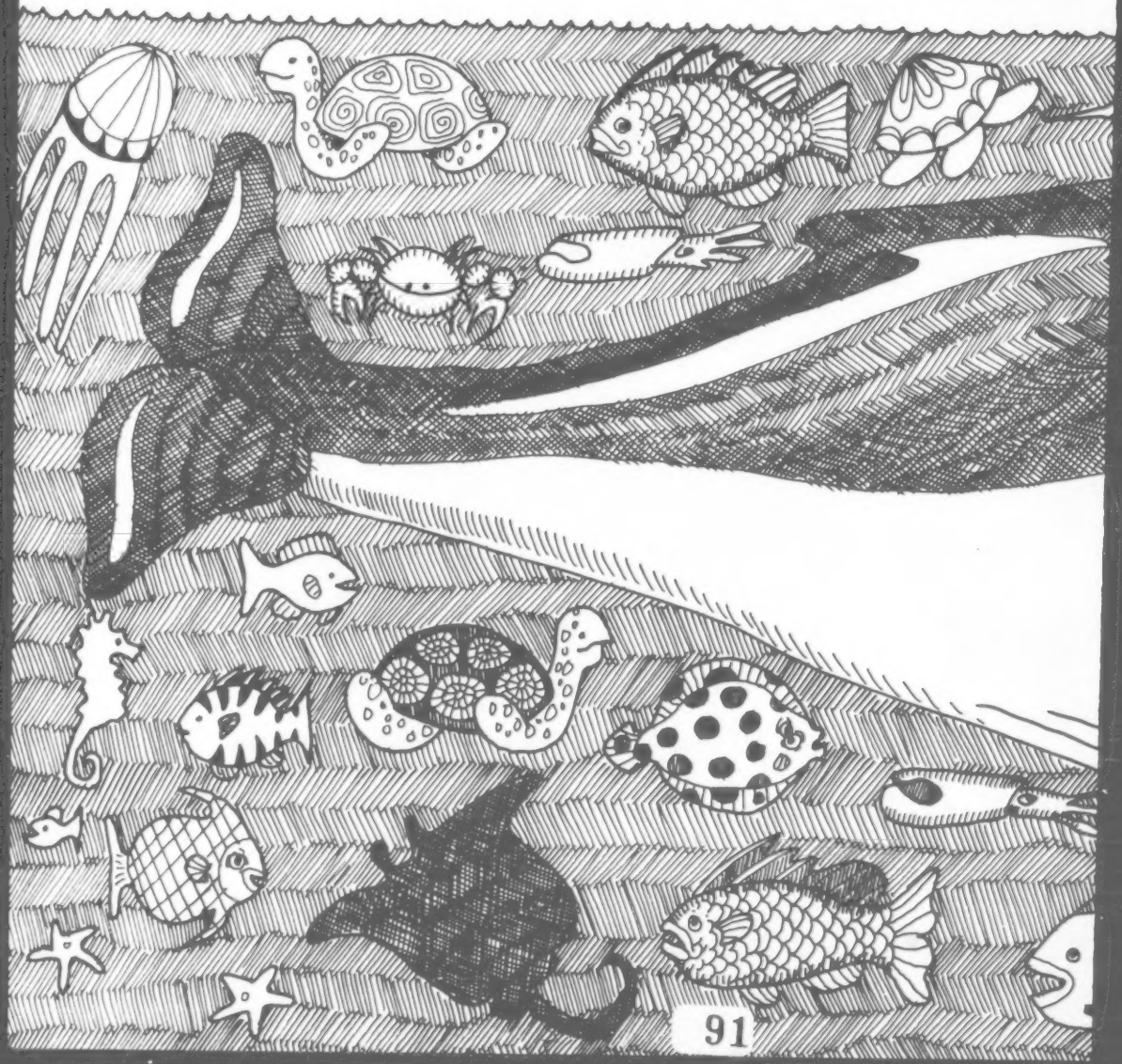


Fred and Felisha Fish danced and sang, "We have scales that are shiny and bright. Together we make a pretty sight!"

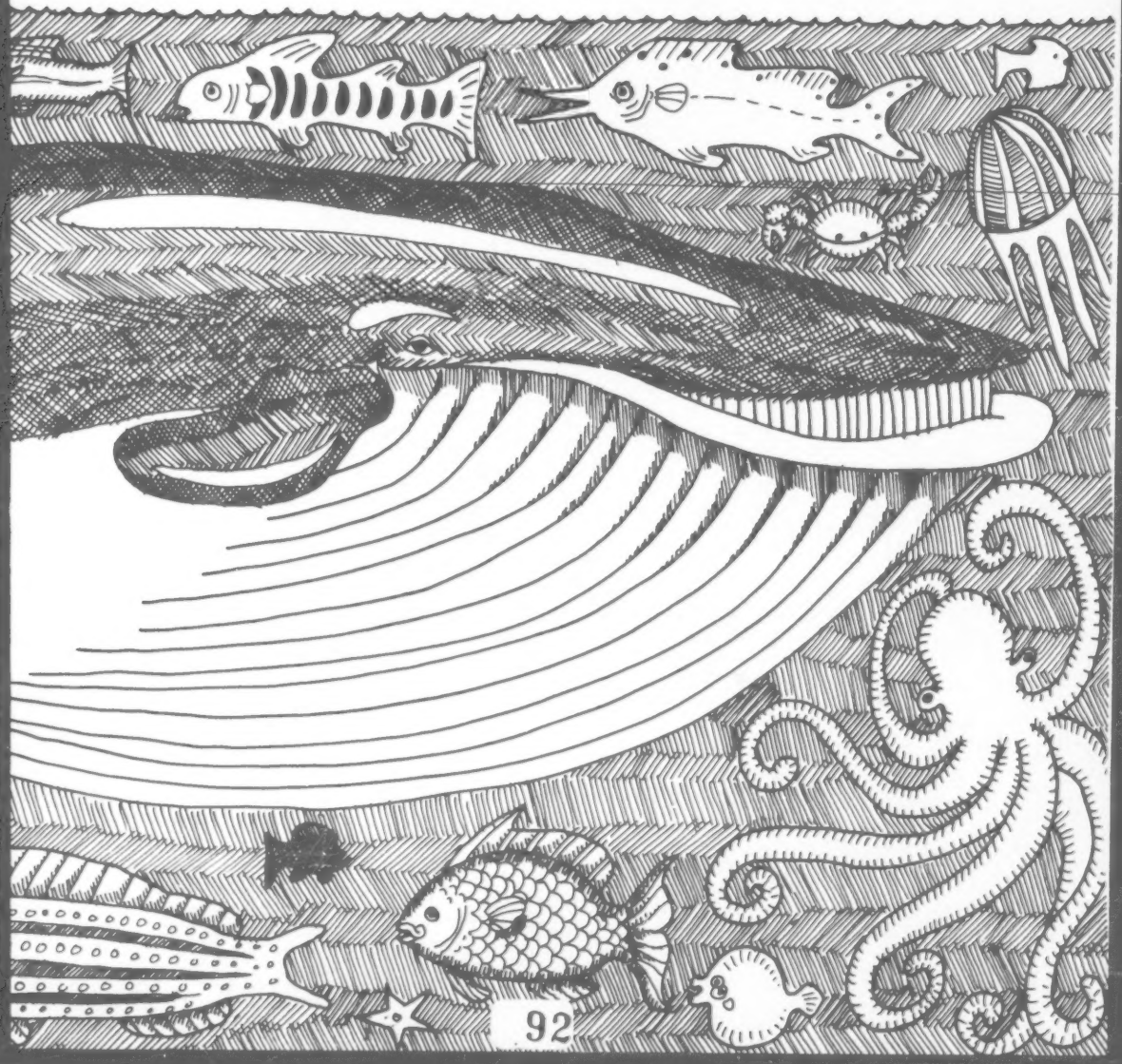


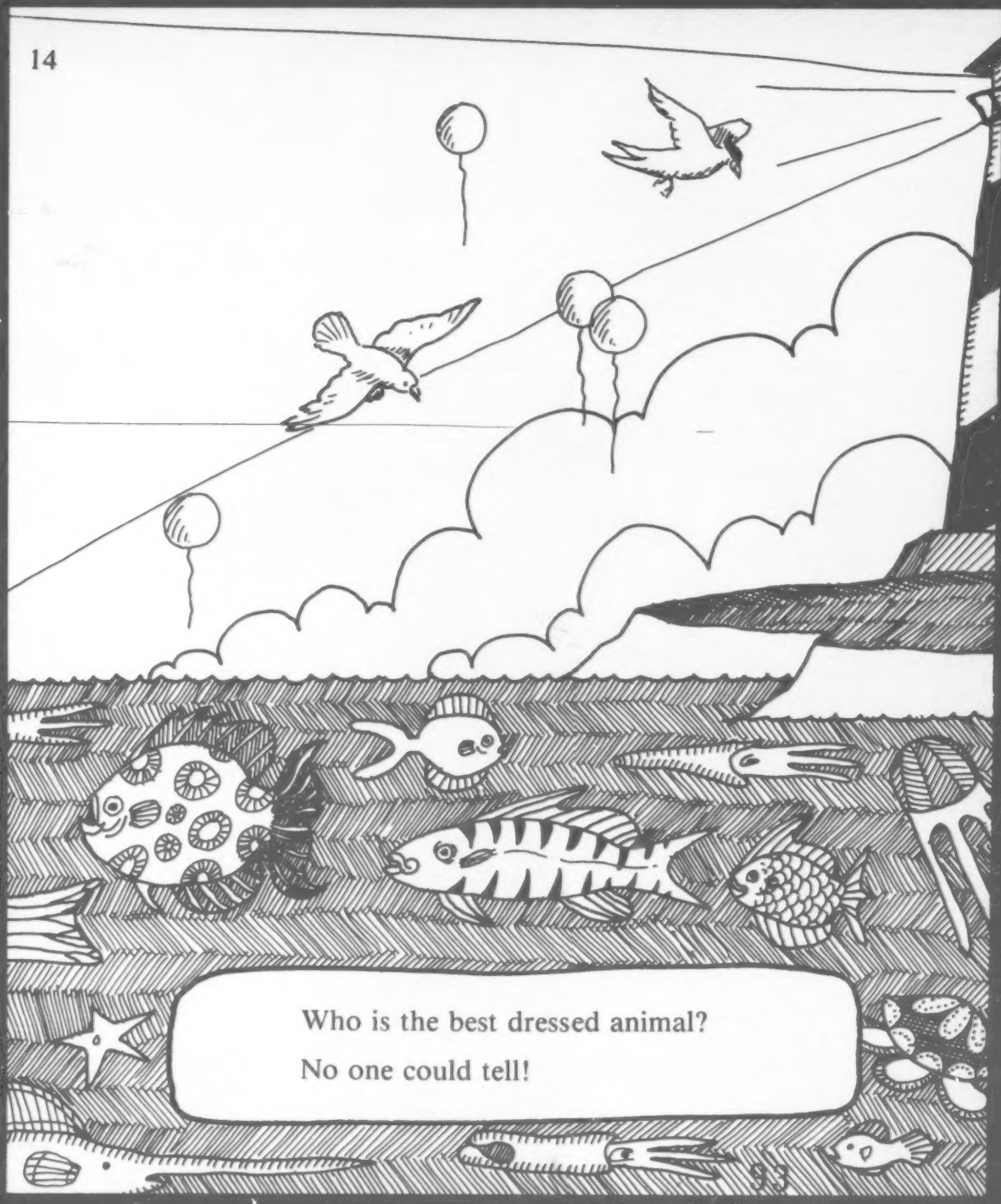
Tony Turtle said quietly, "On my shell you can ride. It gives me a good place to hide."

Willie Whale had this to say,



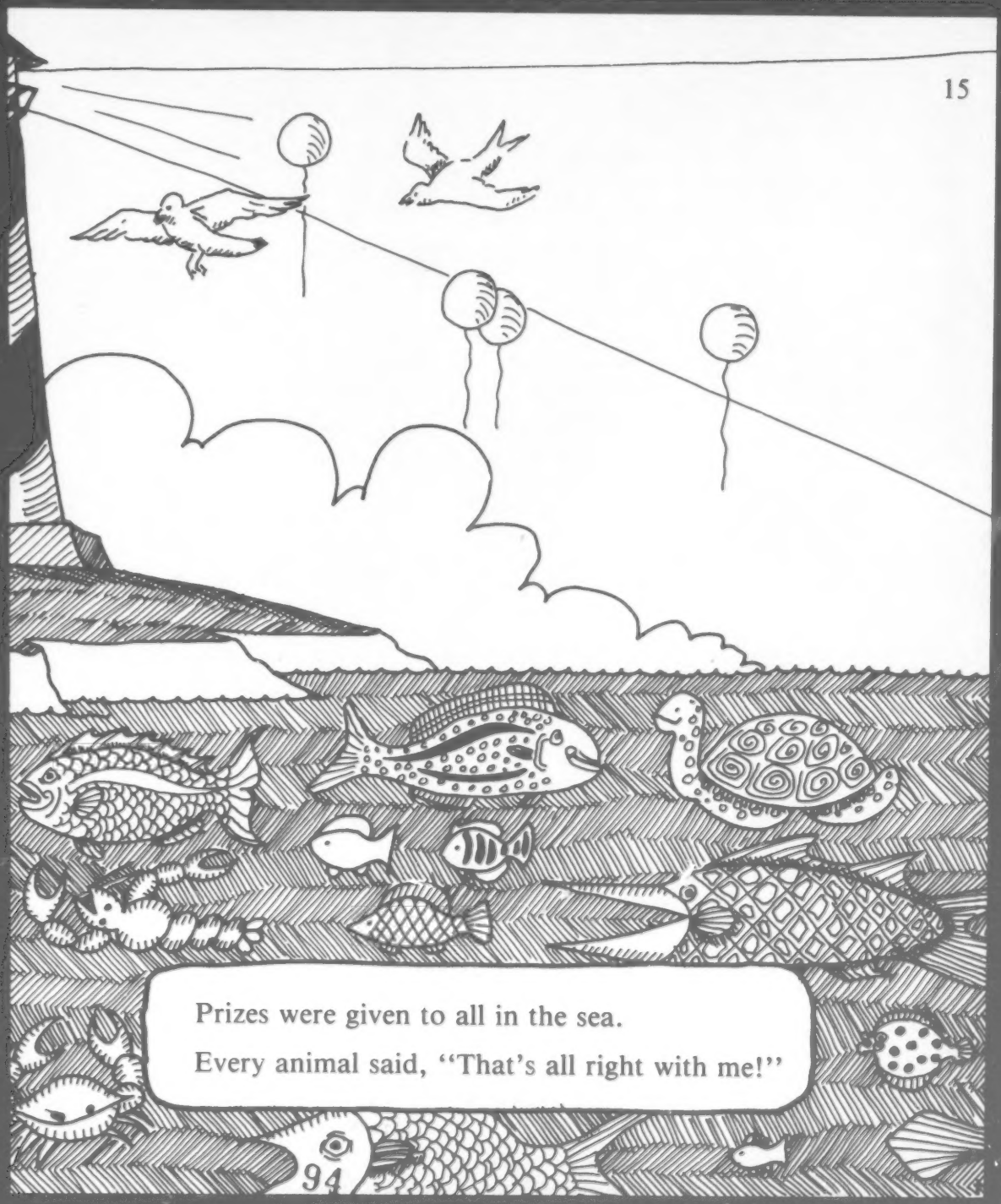
"I am big as you can see. All the animals are smaller than me."





Who is the best dressed animal?

No one could tell!


15
Prizes were given to all in the sea.
Every animal said, "That's all right with me!"
94

Questions

1. Where did the animals decide to have a party?
2. What type of body covering did the bird, Miss Tweet Tern have?
3. Where was Tony Turtle able to hide?
4. Who was the biggest animal at the party?
5. How did feathers help Miss Tweet Tern?
6. What type of covering did Fred and Felisha Fish have?
7. Name some animals that have hair or fur for body coverings.
8. Which large animal had flippers?
9. Which animal lived in a shell?
10. Which animals lived in the sea?

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CECIL'S JOURNEY

by Francene Kelly

illustrated by Alta Steed

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Dr. Carolyn H. Hampton
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Developed under an ESEA Title IV-C Grant
Dare County Board of Education
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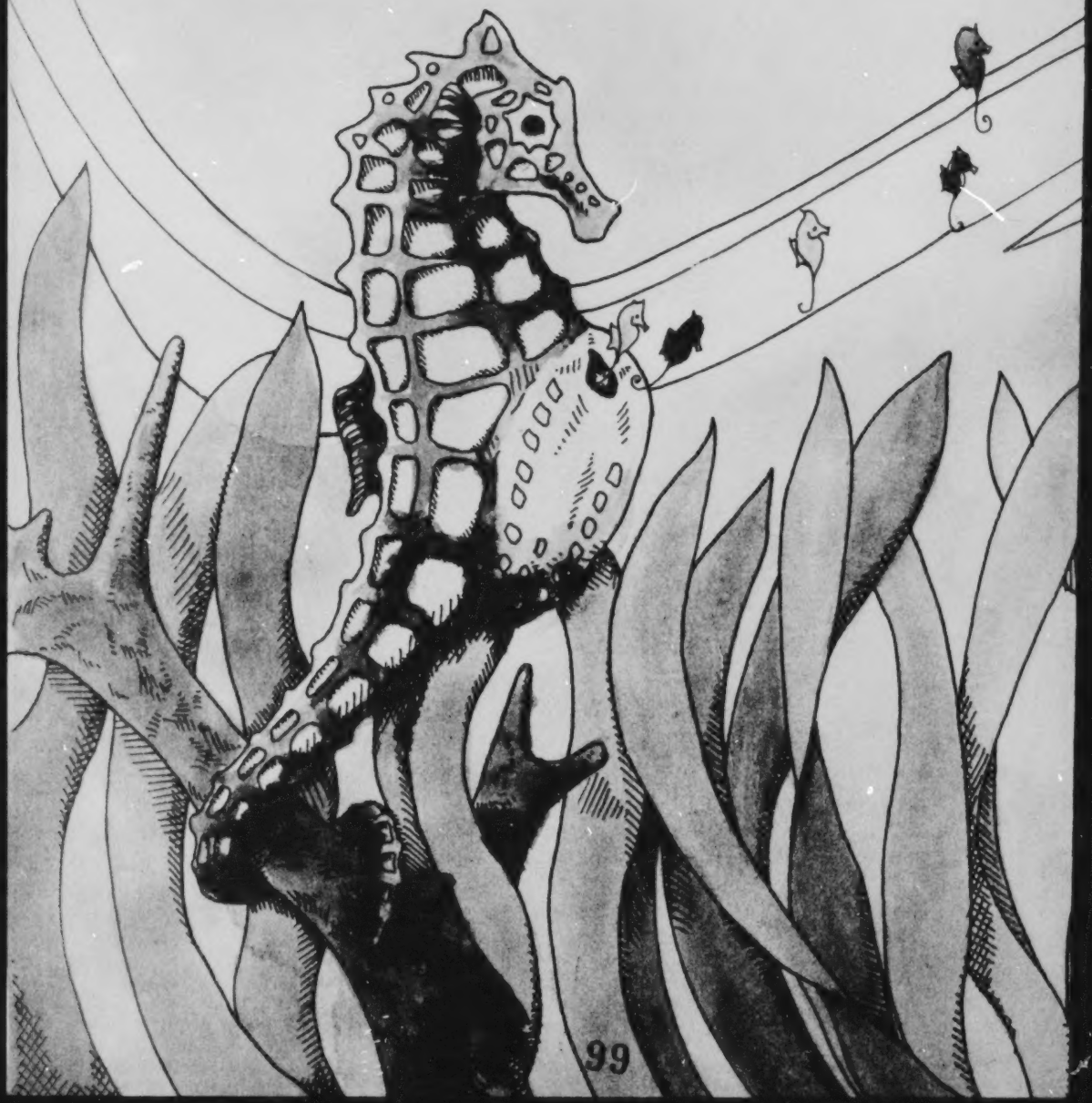
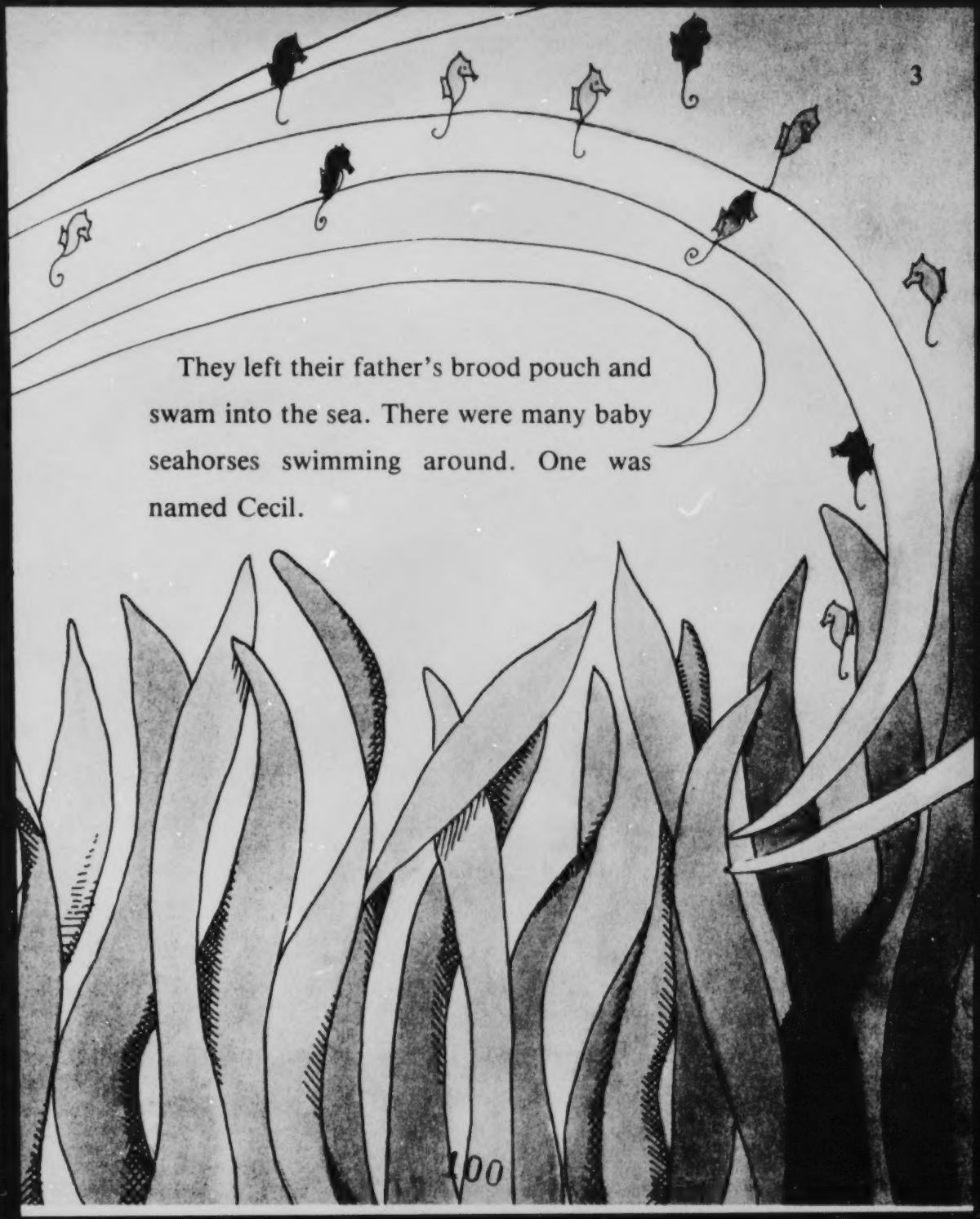
A project CAPE Story Book
February, 1982

Deep down in the ocean, it was time for baby seahorses to be born.

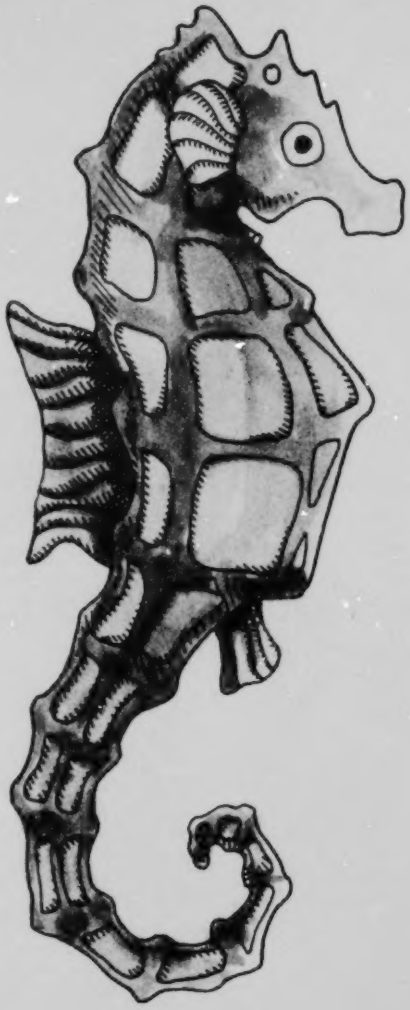




They left their father's brood pouch and swam into the sea. There were many baby seahorses swimming around. One was named Cecil.

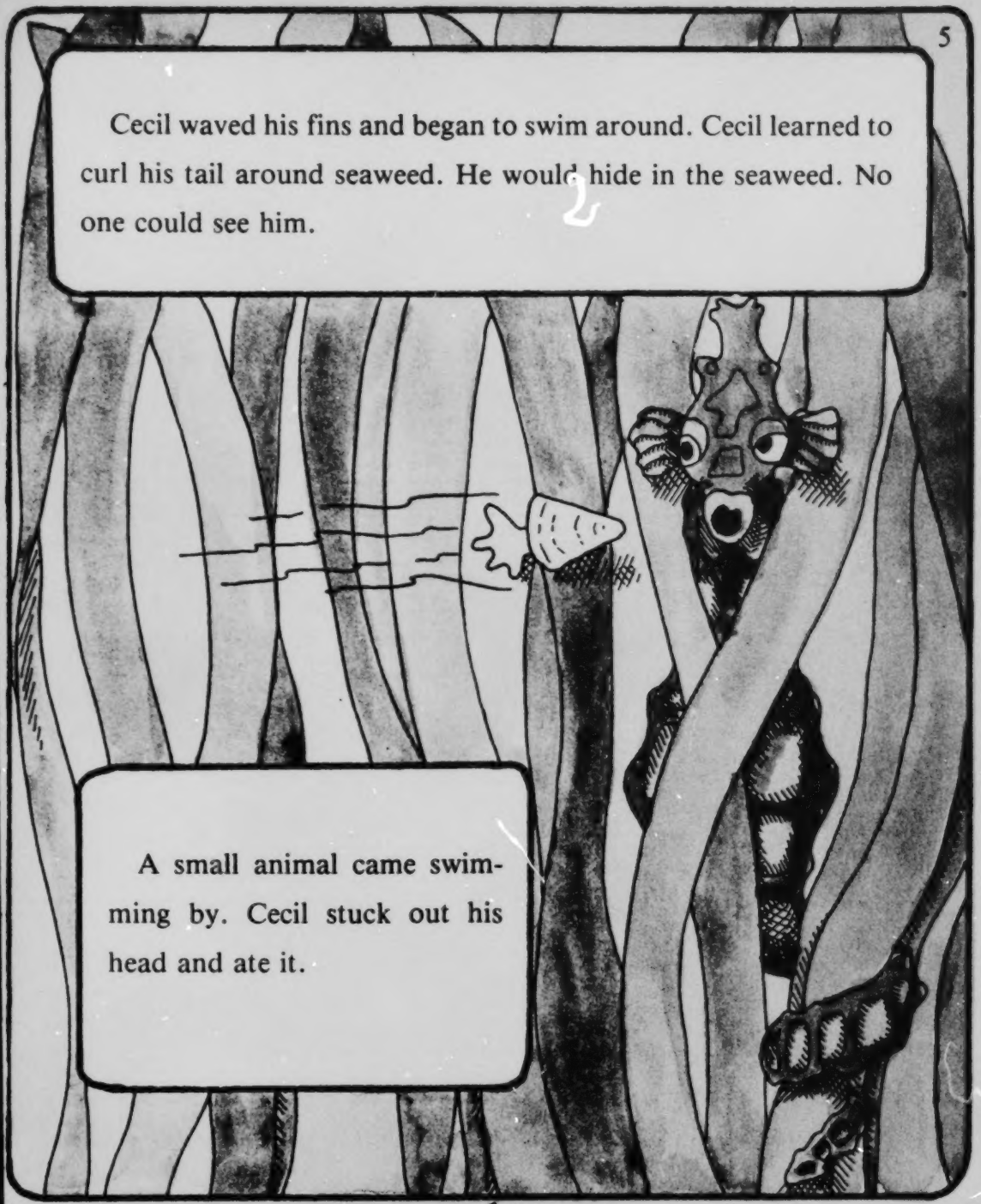
100

4

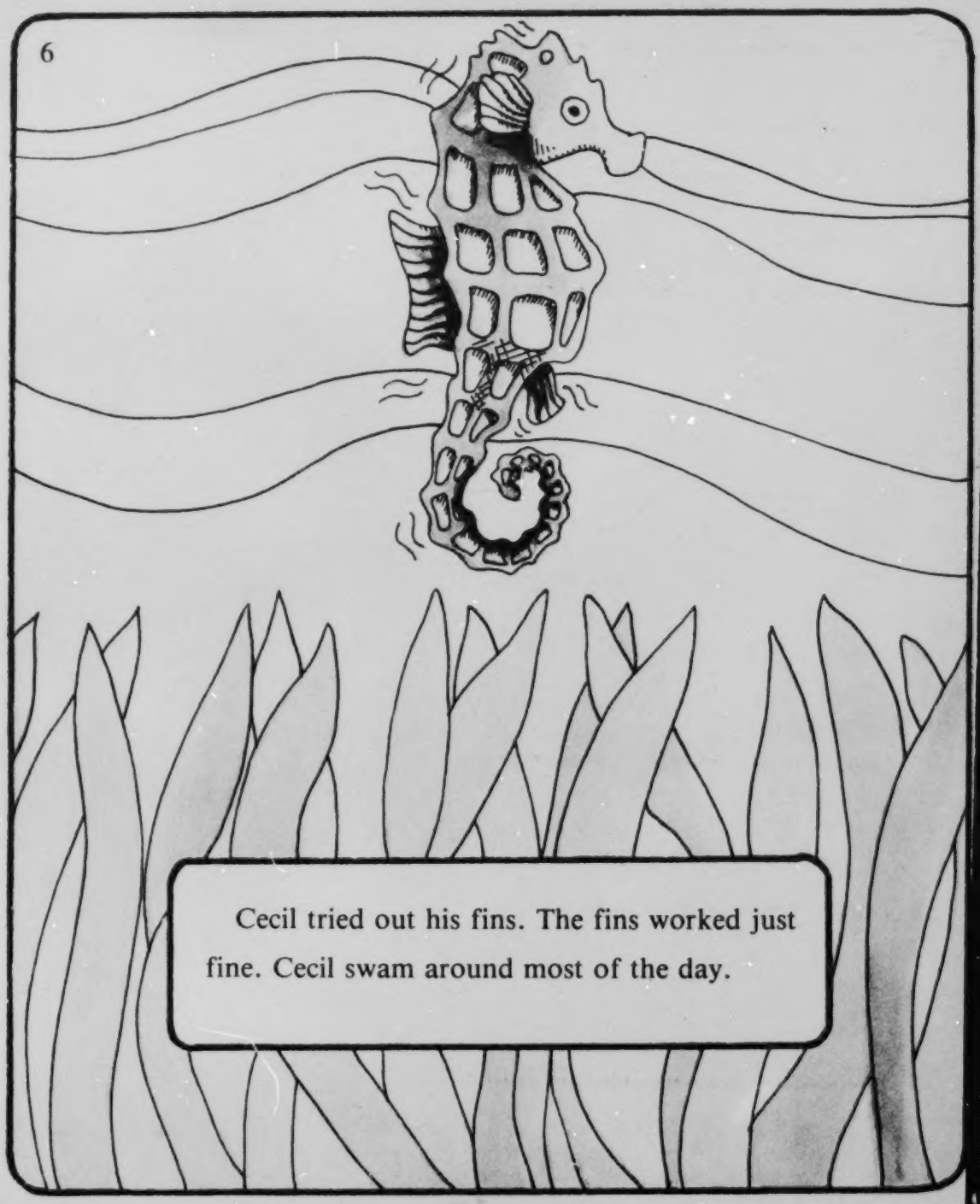


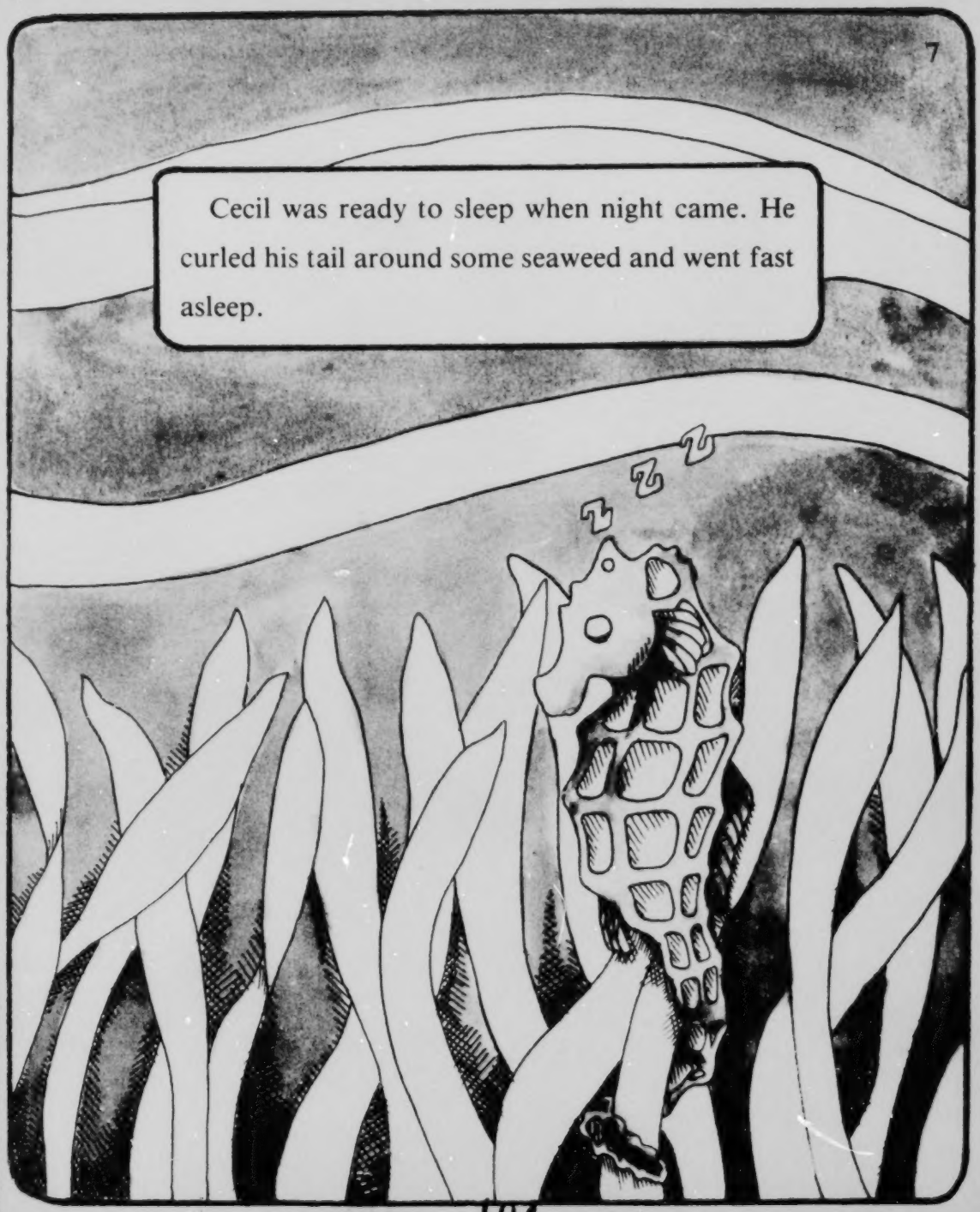
Cecil's head looked like a horse's head. His tail was curled like a monkey's tail. He was covered with bony plates.

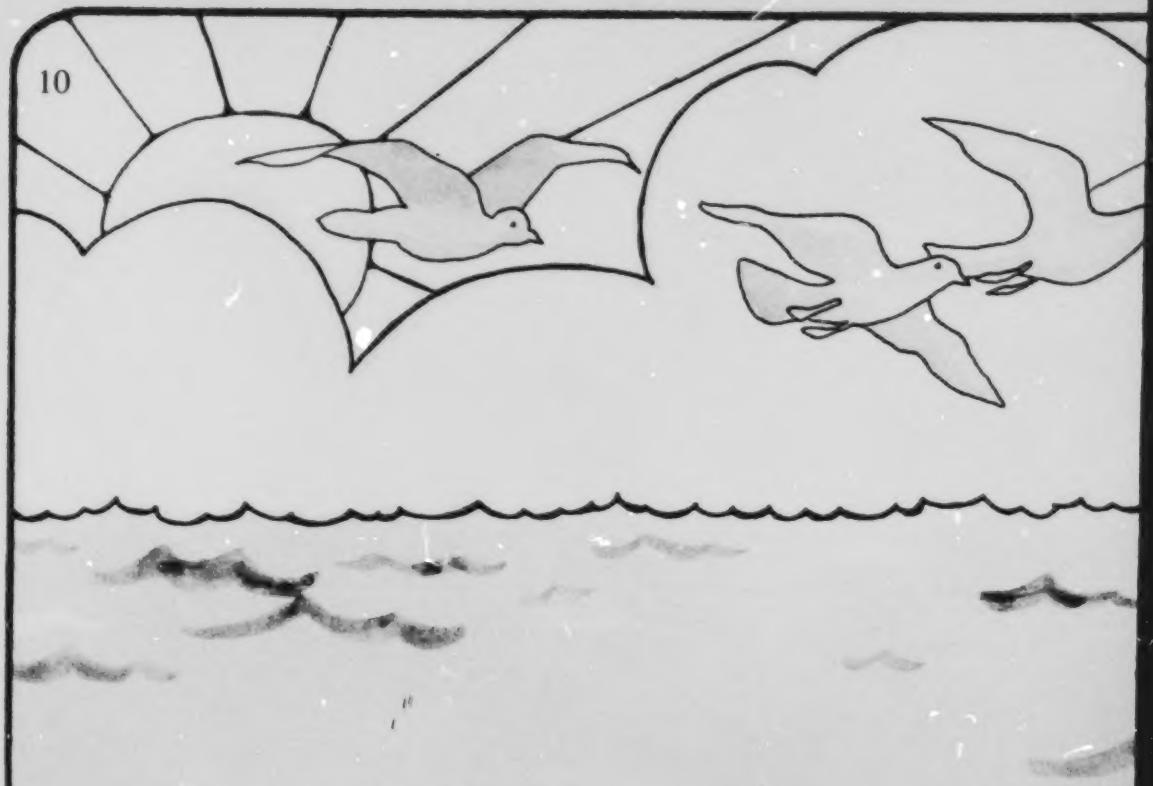
Cecil waved his fins and began to swim around. Cecil learned to curl his tail around seaweed. He would hide in the seaweed. No one could see him.



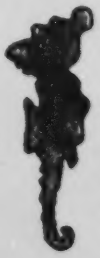
A small animal came swimming by. Cecil stuck out his head and ate it.


6
Cecil tried out his fins. The fins worked just fine. Cecil swam around most of the day.

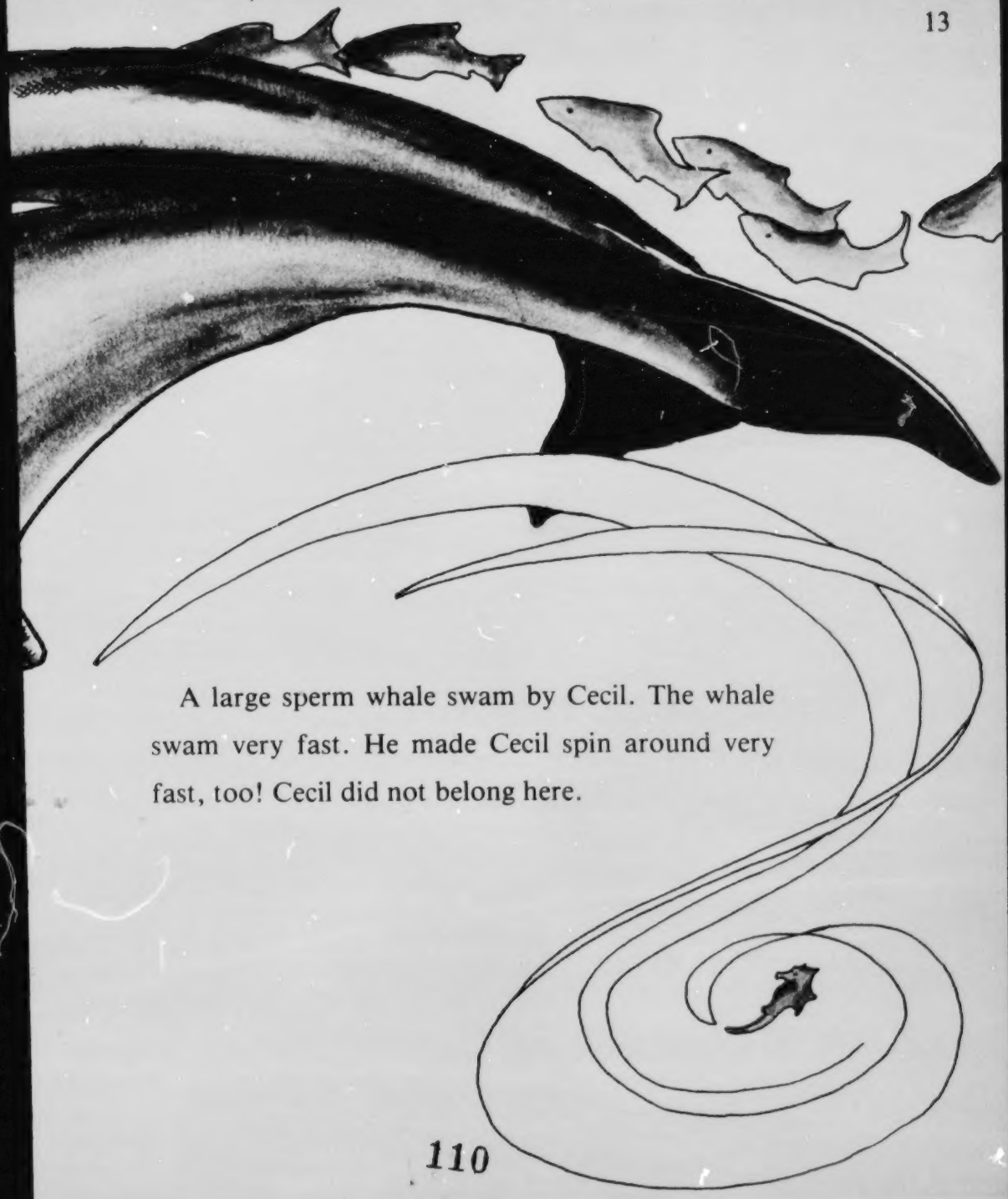

7
Cecil was ready to sleep when night came. He curled his tail around some seaweed and went fast asleep.



Cecil was lost. There was nothing around him that looked like home. There was only the bright sunlight.

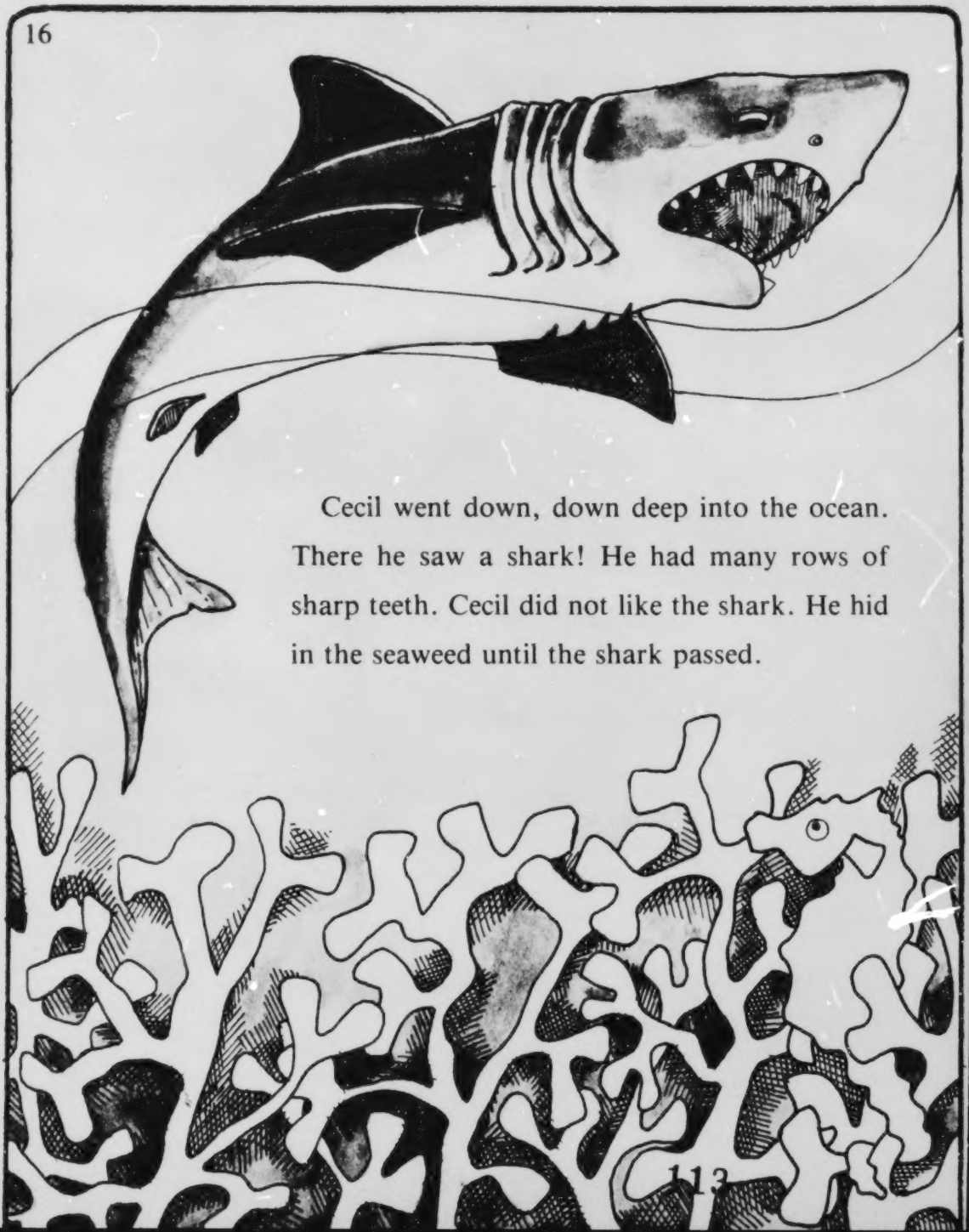


Cecil looked up at the light. He saw a turtle swimming on the water. He also saw seagulls flying in the air. The water was very clear at this place.



A large sperm whale swam by Cecil. The whale swam very fast. He made Cecil spin around very fast, too! Cecil did not belong here.

Cecil swam with the currents. He saw a dolphin jump out of the water. There were lots of dolphins. They were playing and having fun. Cecil could not jump out of the water and have fun. This was not home.

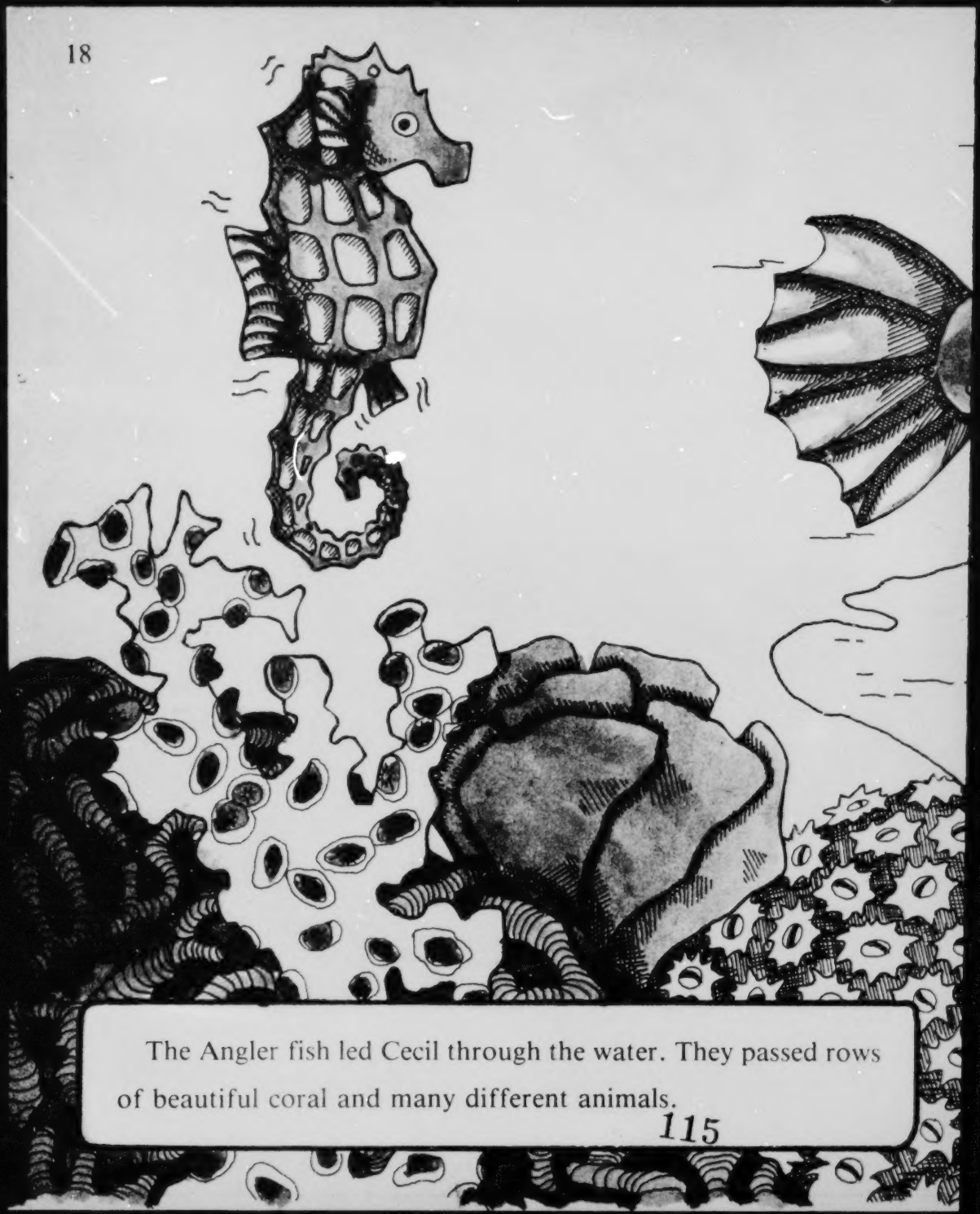


Cecil went down, down deep into the ocean. There he saw a shark! He had many rows of sharp teeth. Cecil did not like the shark. He hid in the seaweed until the shark passed.

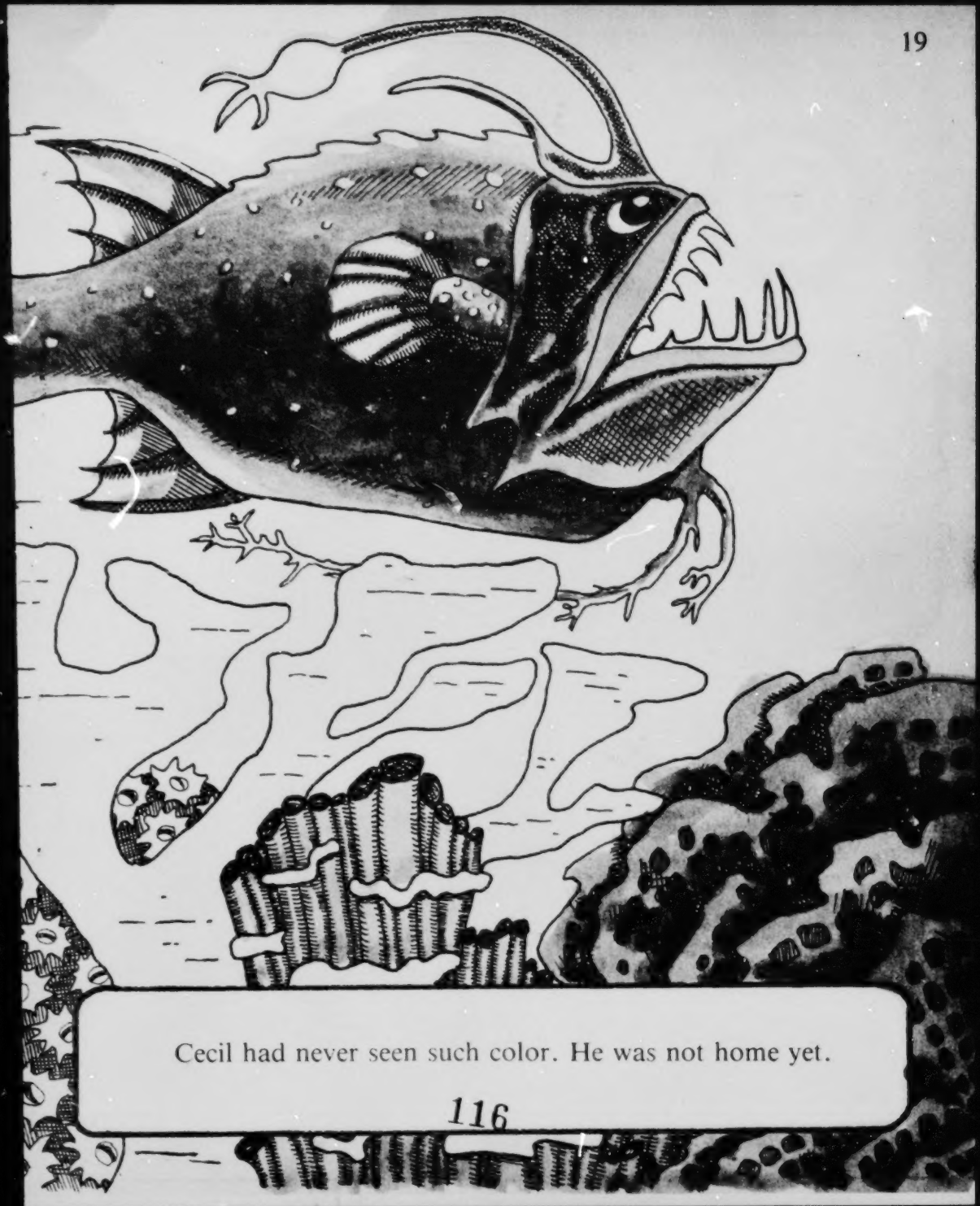
Cecil swam deeper into the ocean. He saw a light twinkle off and on. Where was he? Was he home?

He swam toward the light. The light was part of a fish. Cecil had never seen a fish like this. Cecil was sad. He was truly lost.

The glowing fish said he was an Angler fish. He told Cecil that he would help him find his way home.



The Angler fish led Cecil through the water. They passed rows of beautiful coral and many different animals.

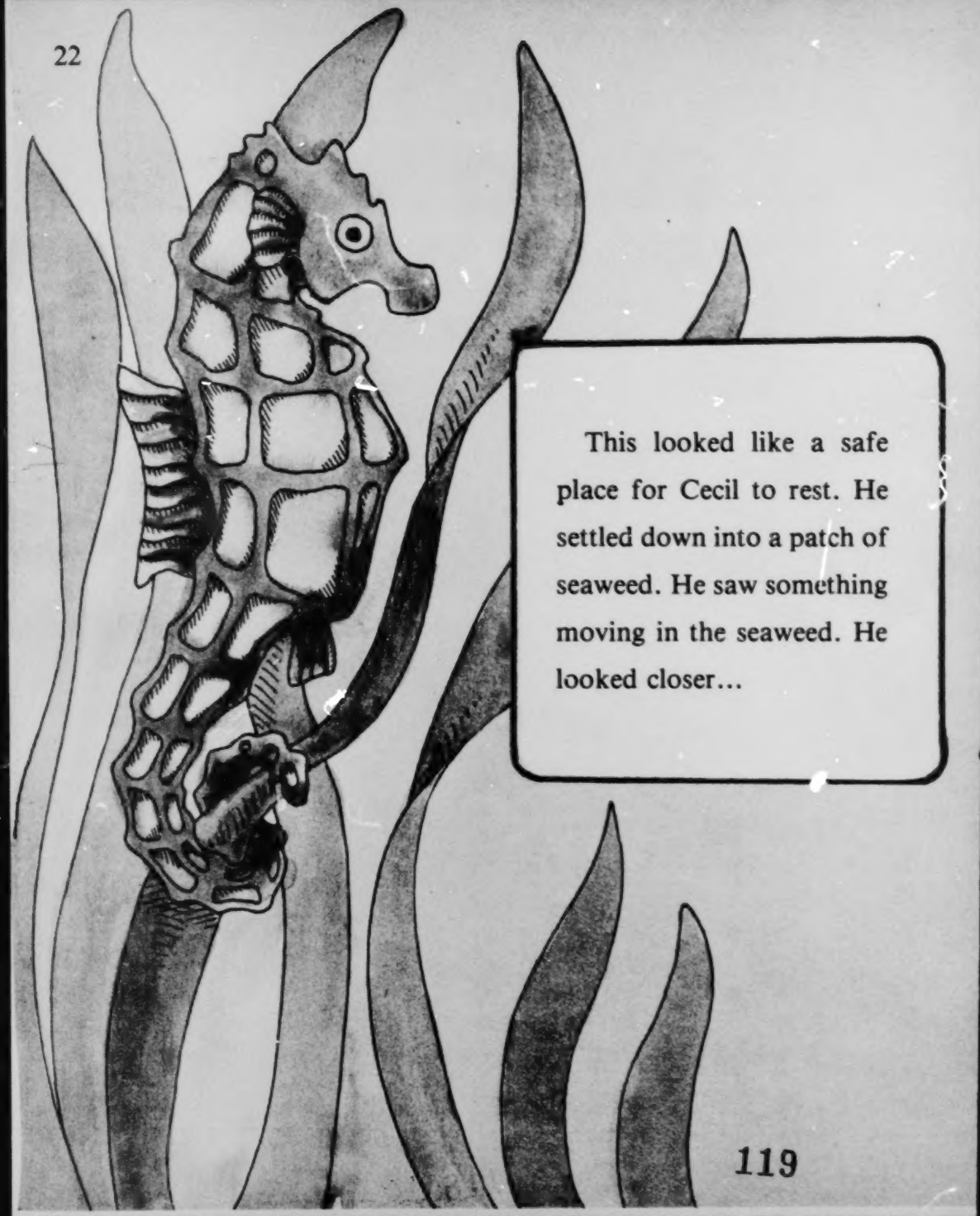


Cecil had never seen such color. He was not home yet.

They swam for many miles. Then the Angler fish stopped. He could go no further or he would burst. He had to stay in very deep water. He hoped Cecil would find his way home.

Cecil swam toward the light. A strong current pushed him. He did not know the way home. Maybe the current would help him find his place.

He traveled many miles. The water was very calm now. He could see the ocean bottom. A manta ray dived to the bottom and stirred up the sand. A crab moved quickly out of his way.



This looked like a safe place for Cecil to rest. He settled down into a patch of seaweed. He saw something moving in the seaweed. He looked closer...

23
SEAHORSES!! Just like Cecil! He had found his home at last!

Questions

1. From whose pouch was Cecil born?
2. How did Cecil hold on to seaweed and rocks?
3. What did Cecil eat?
4. Where did Cecil live?
5. What animals did Cecil see above the water?
6. What animals did Cecil see in the dark waters?
7. What animals did Cecil see on the ocean bottom?
8. Can you think of another name for this story?
9. Describe the ocean that Cecil explored.
10. Think of another way the story might have ended. Write it down.

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THE RIDDLE COLORING BOOK

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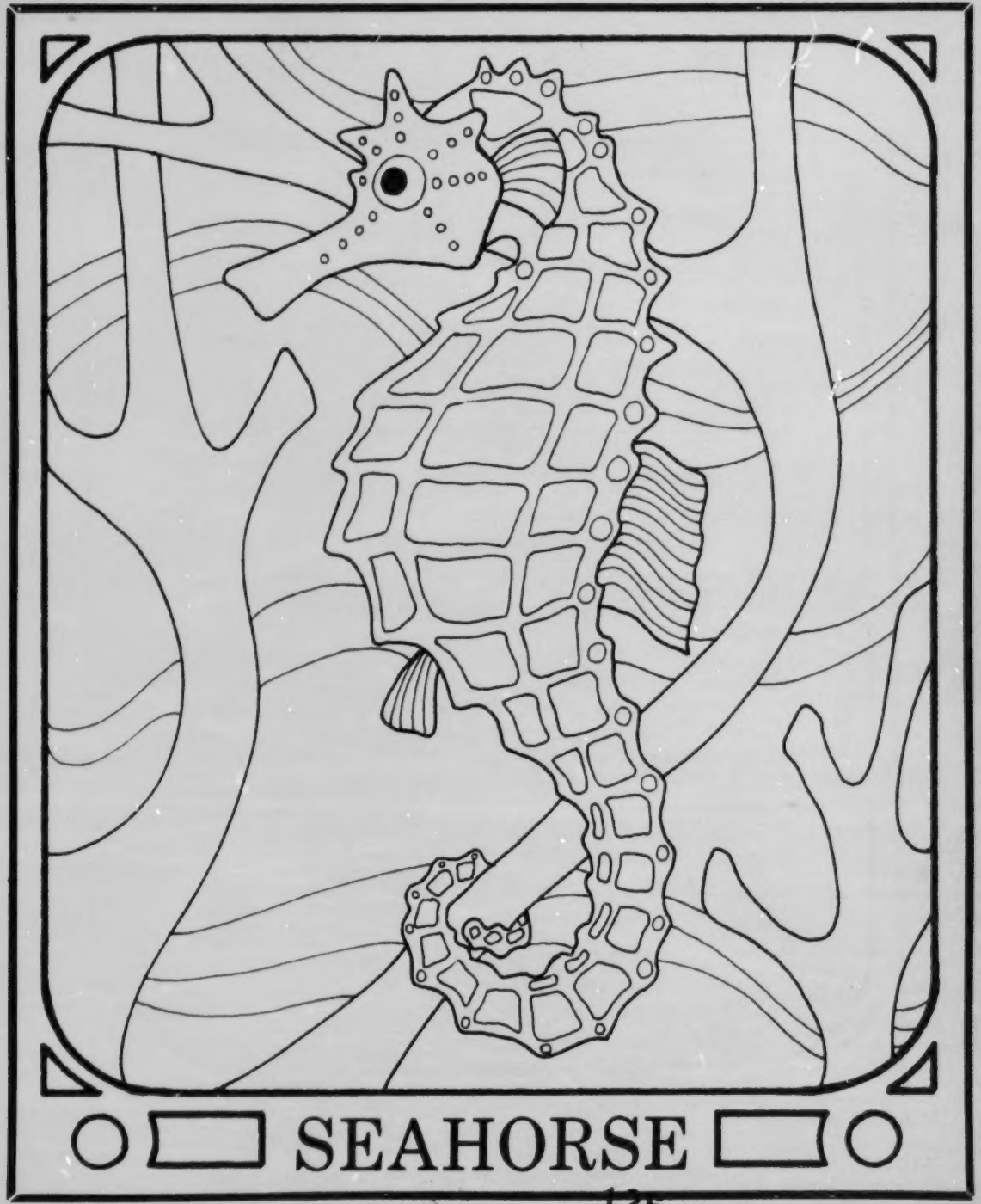
The shape of my head

is the same as a horse.

Clinging to plants

is where I stay, of course.

What am I?


SEAHORSE

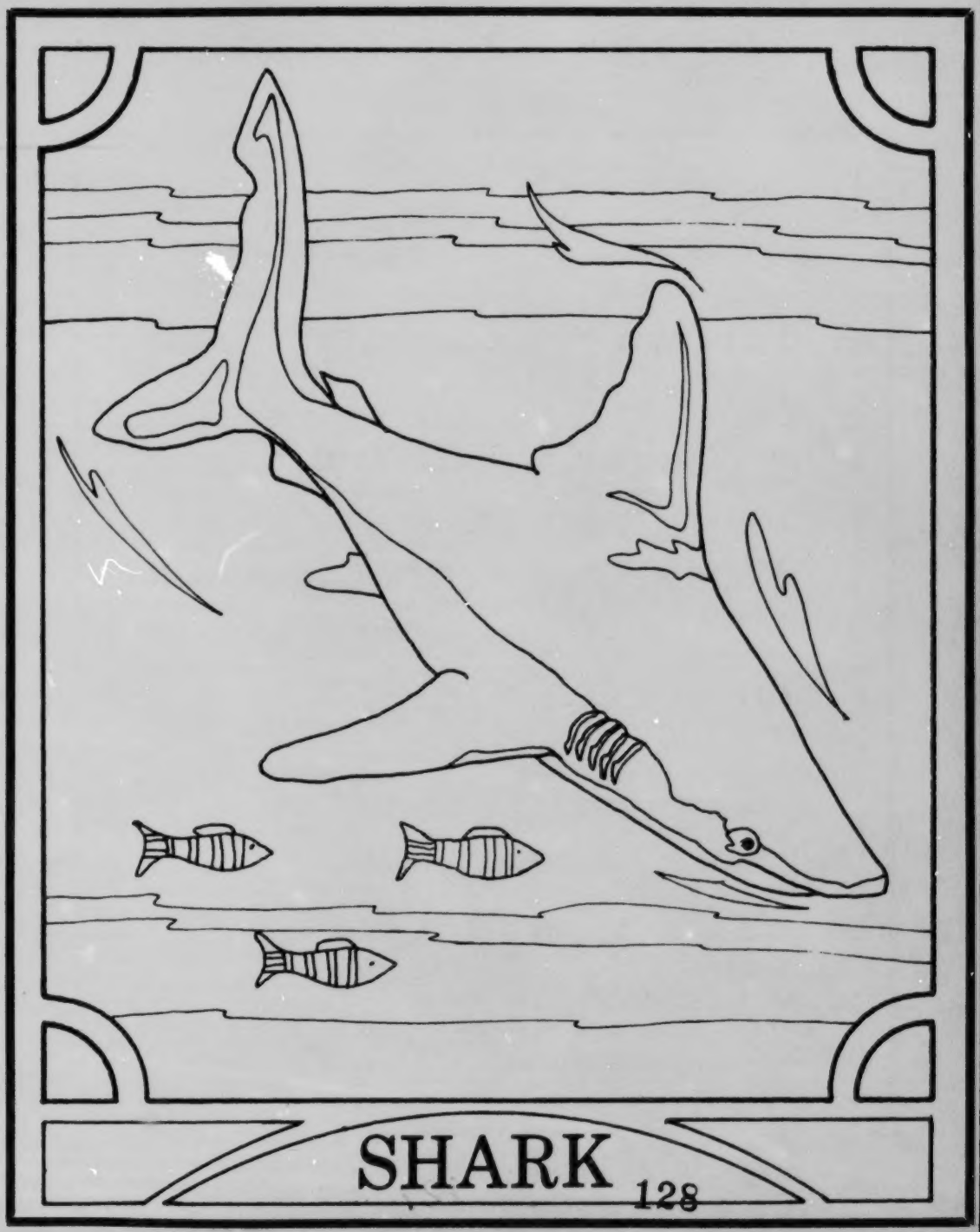
I have rows of sharp teeth.

Very quickly I swim.

When I am near

do not come in!

What am I?



SHARK

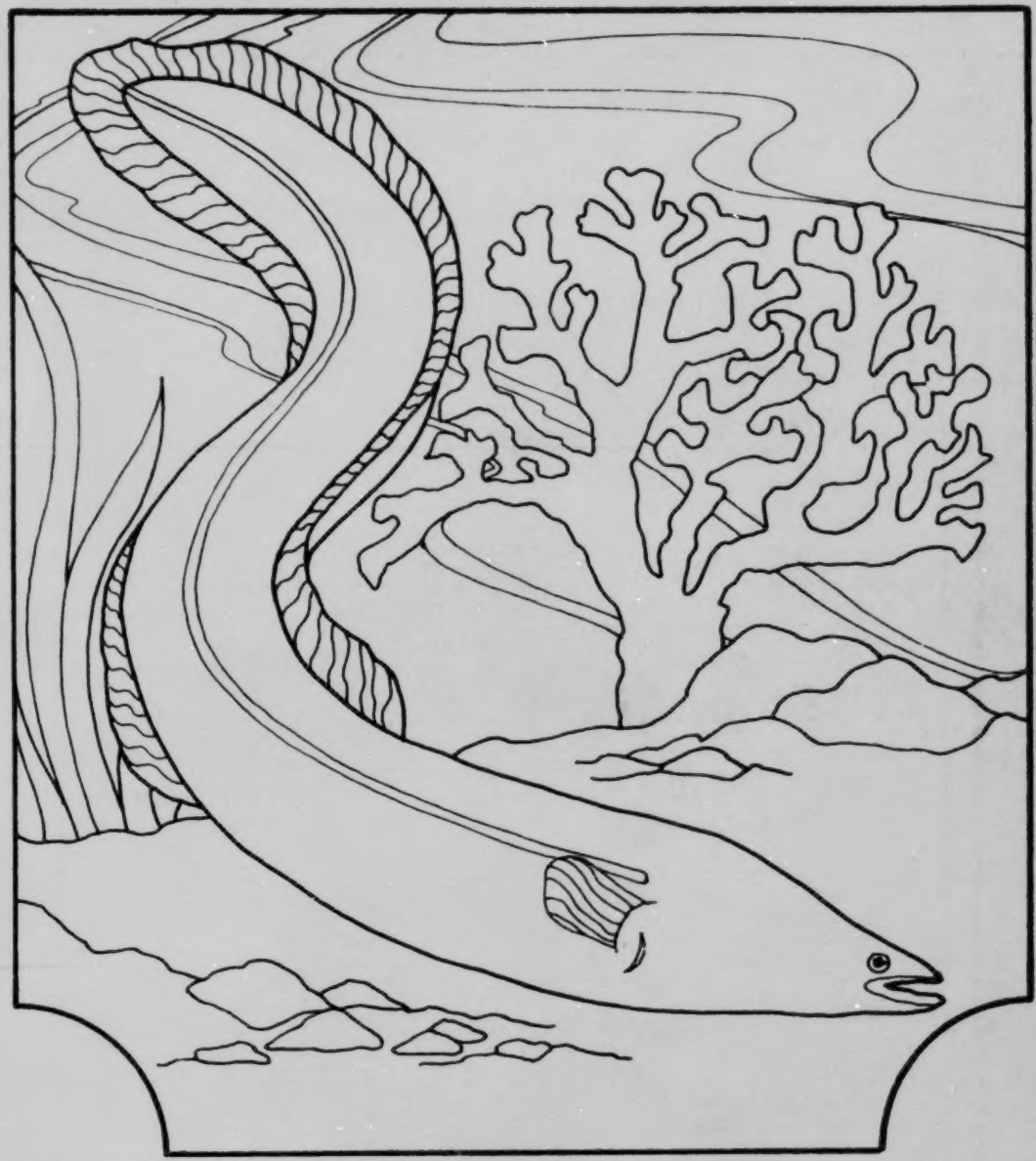
Slippery and slimy

I may appear.

My skin is protection

from those I fear.

What am I?



EEL

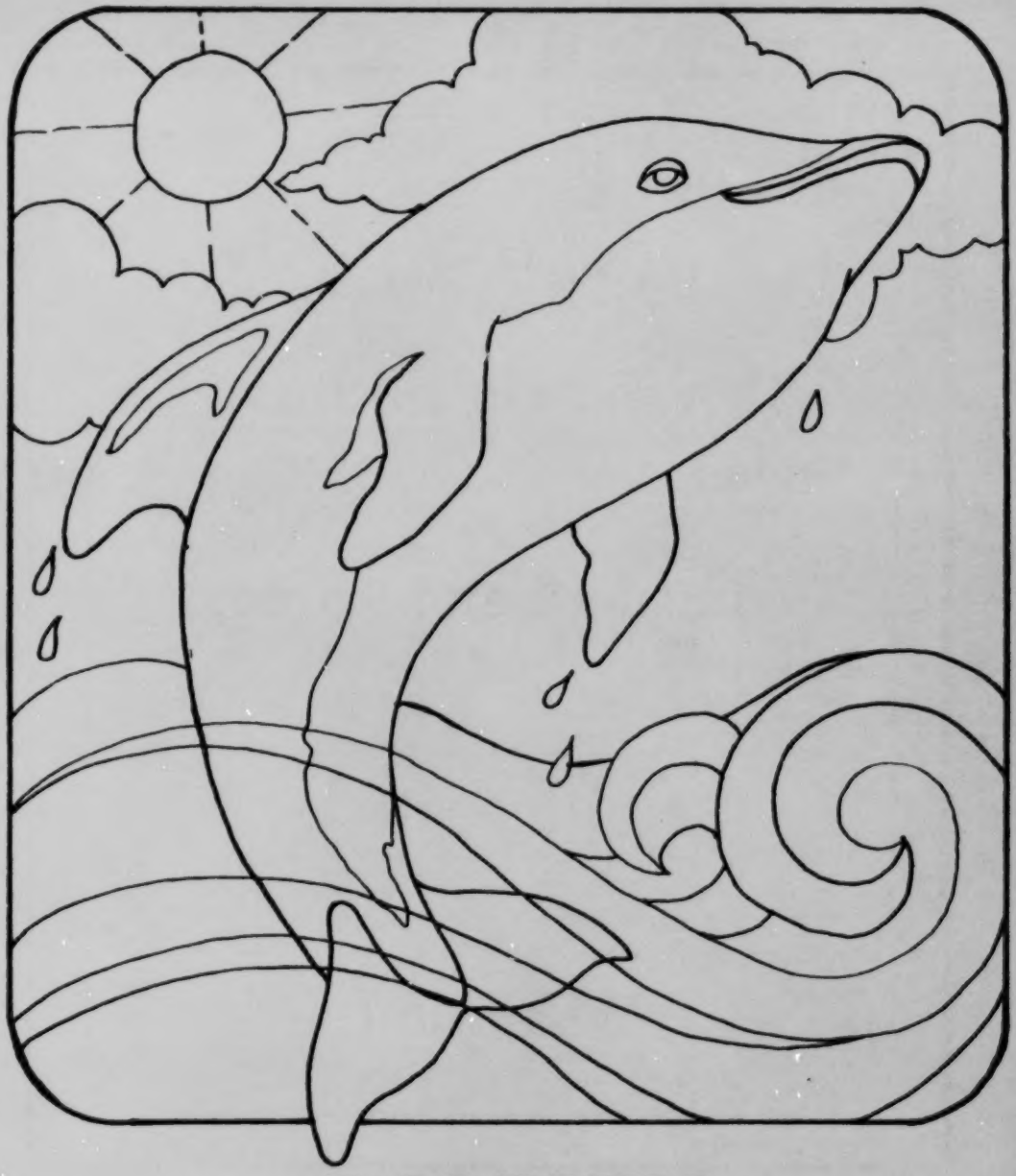
I am a cousin of the whale,

although I am much smaller in scale.

Diving deep and leaping high,

I swim with boats as they go by.

What am I?



DOLPHIN

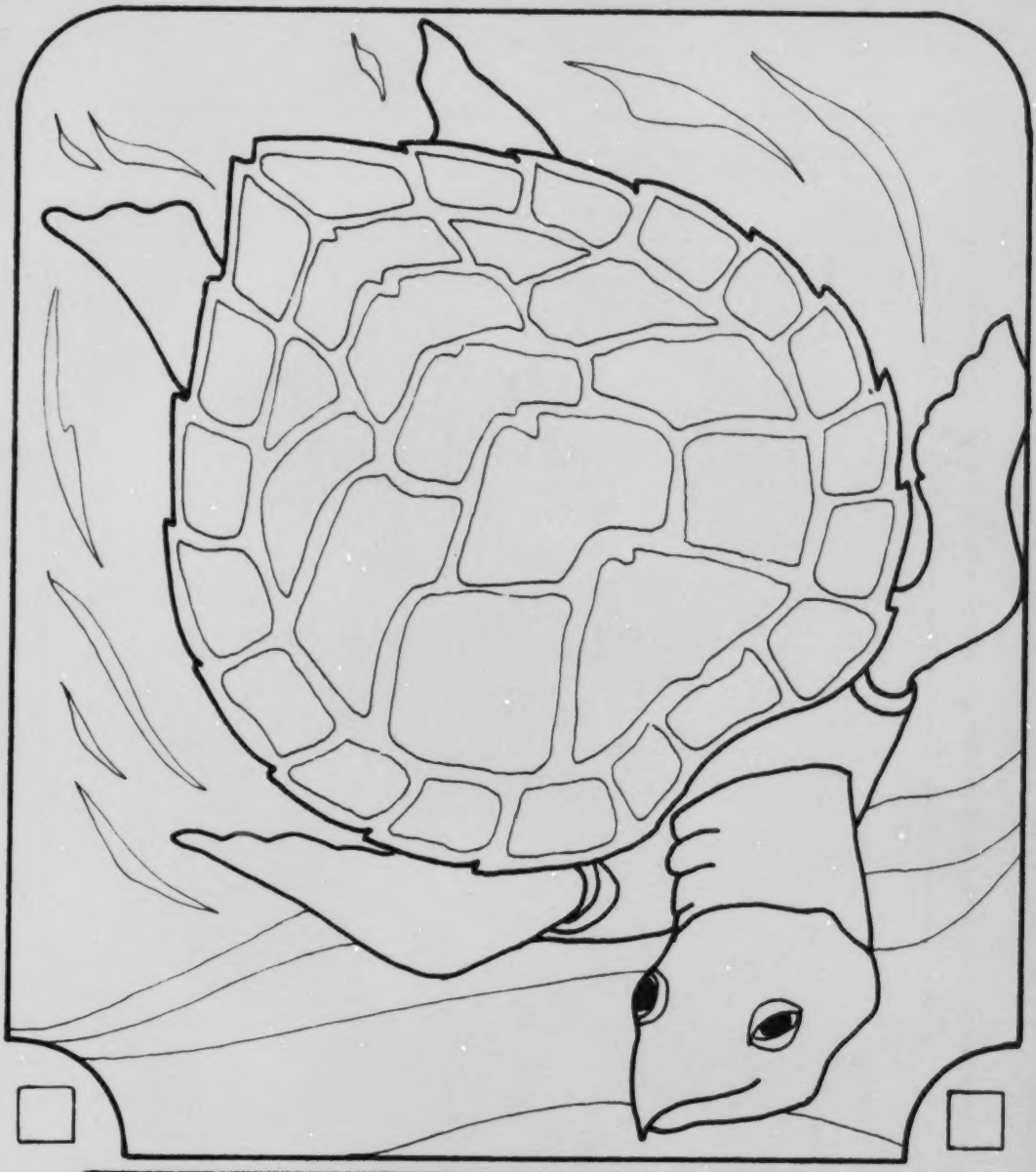
I have a hard shell

that is also my home.

It is sometimes green

and much like a dome.

What am I?



TURTLE

I am not a fish,

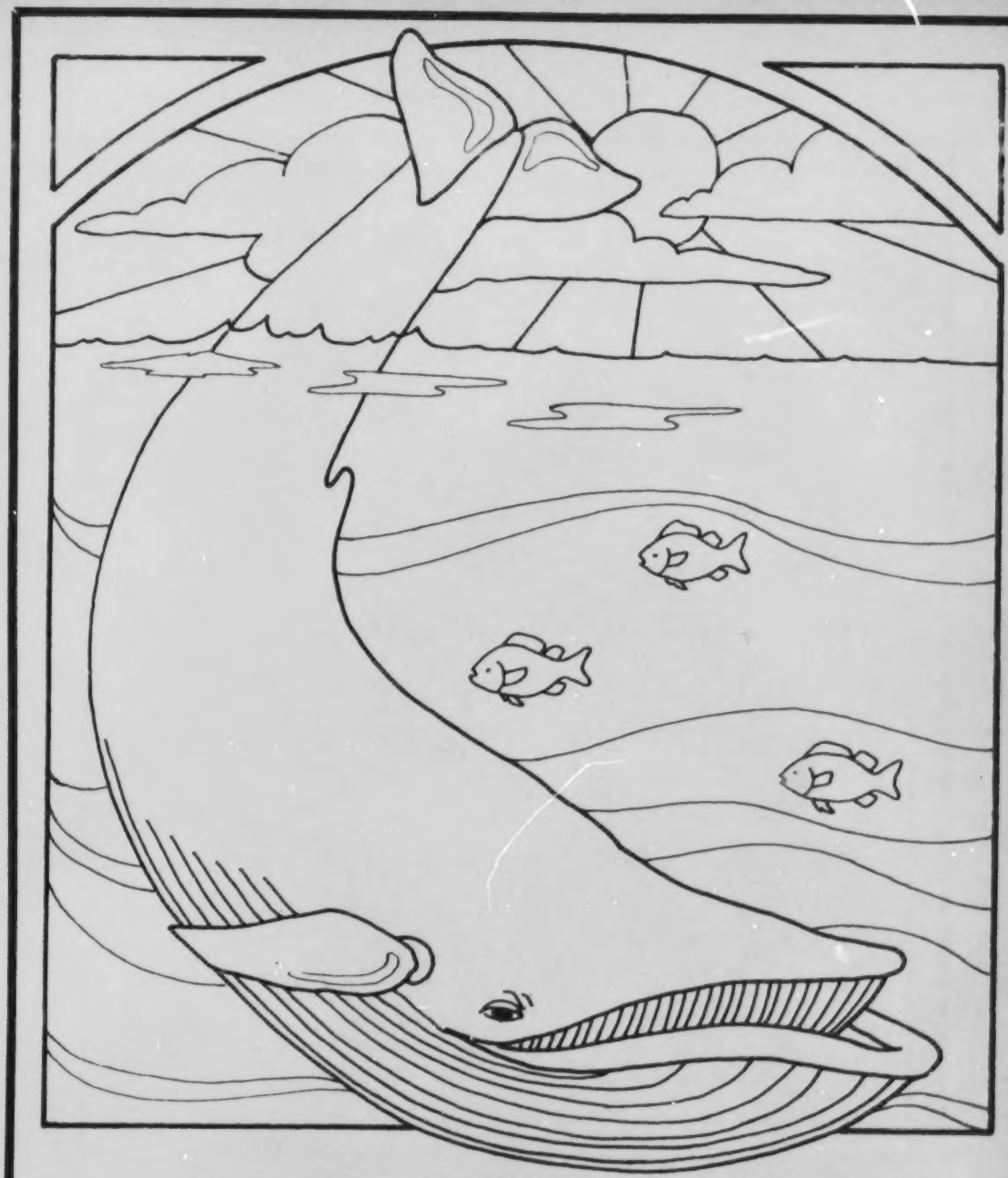
but I live in the sea.

I am a mammal.

I am the biggest that

can be.

What am I?



BLUE WHALE

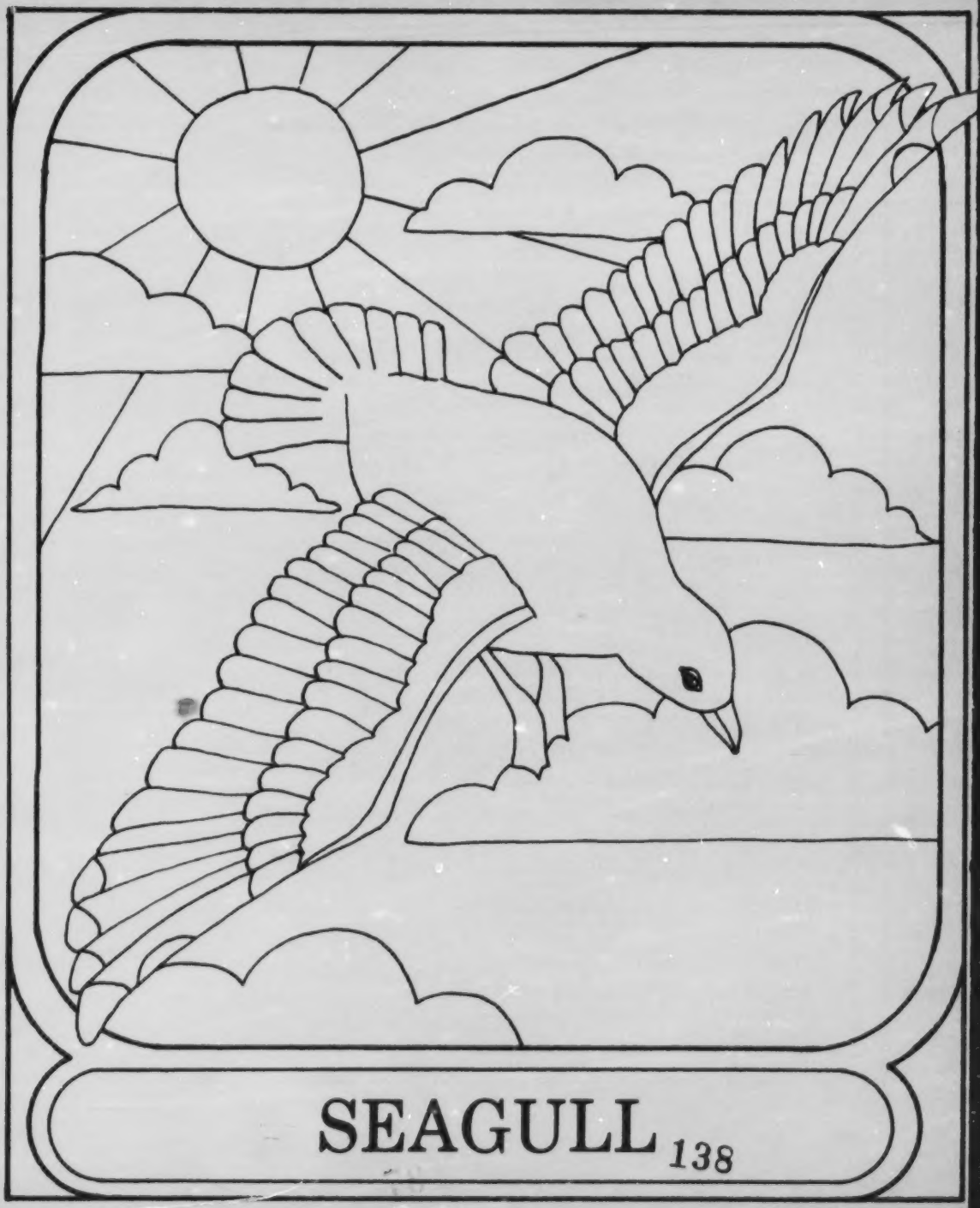
My bones are light.

Wings give me flight.

Fresh fish on the dock,

I call the whole flock.

What am I?



SEAGULL 138

Scales cover my body

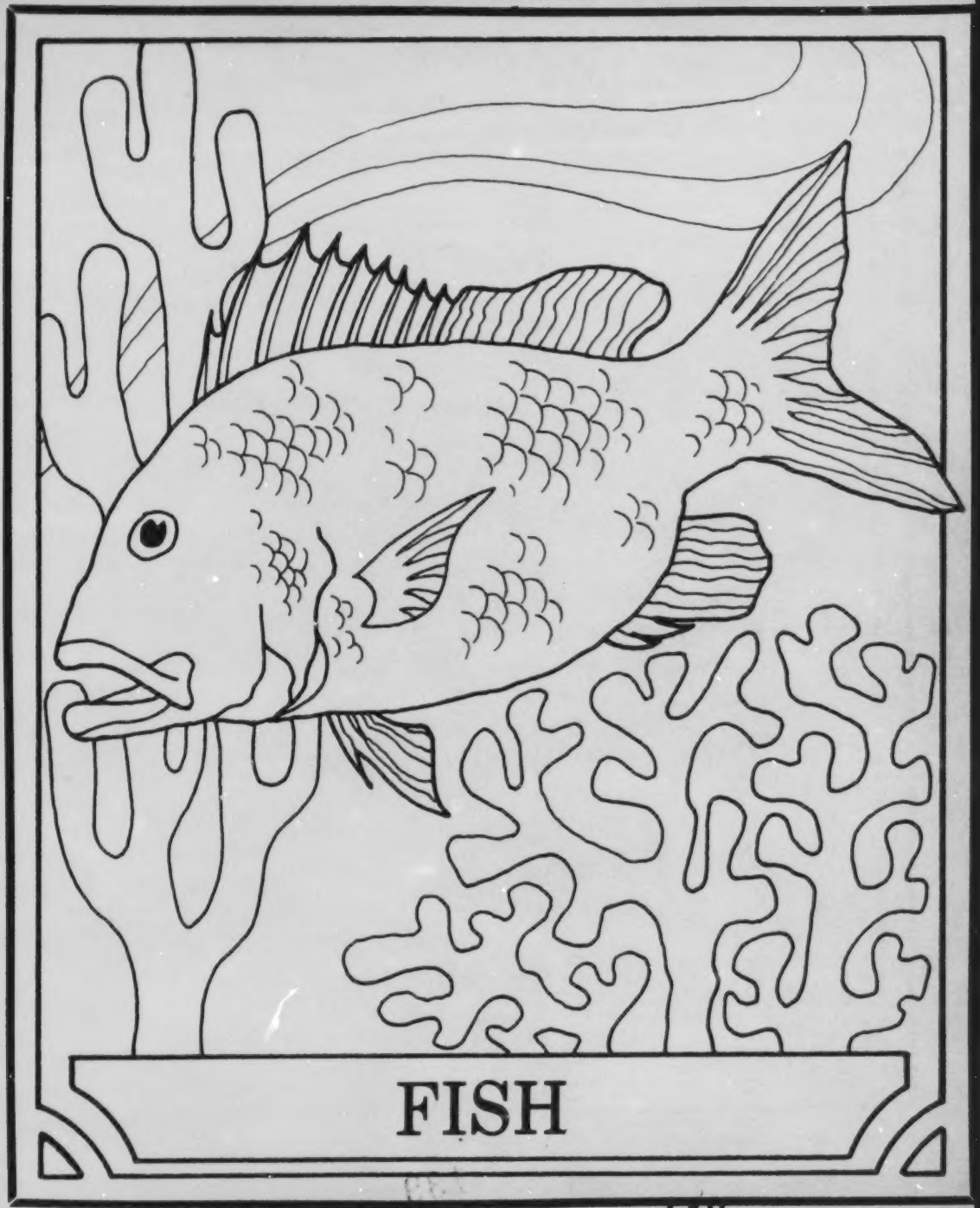
from my head to my tail.

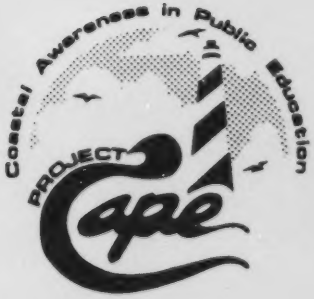
I have a brother named

"Blue"

and one named "Sail".

What am I?


FISH



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Dare County Board of Education
Manteo, North Carolina 27954

fish

gull

boy

scales

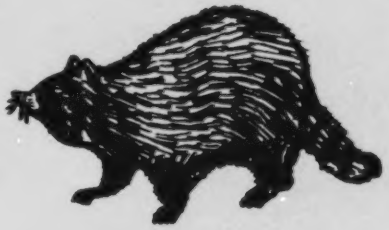
feathers

skin

K-2a
3.1

rabbit

fur/hair



raccoon

fur/hair

owl

feathers

K-2a
3.2

eel

scales

armadillo

shell

snake

scales

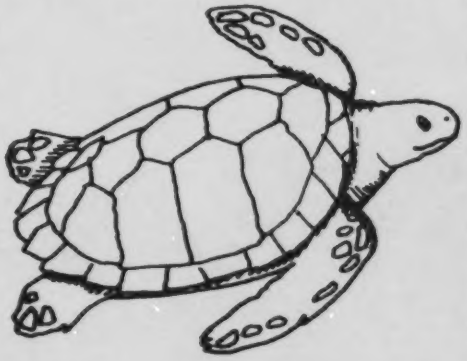
K-2B
5.3

whale

skin

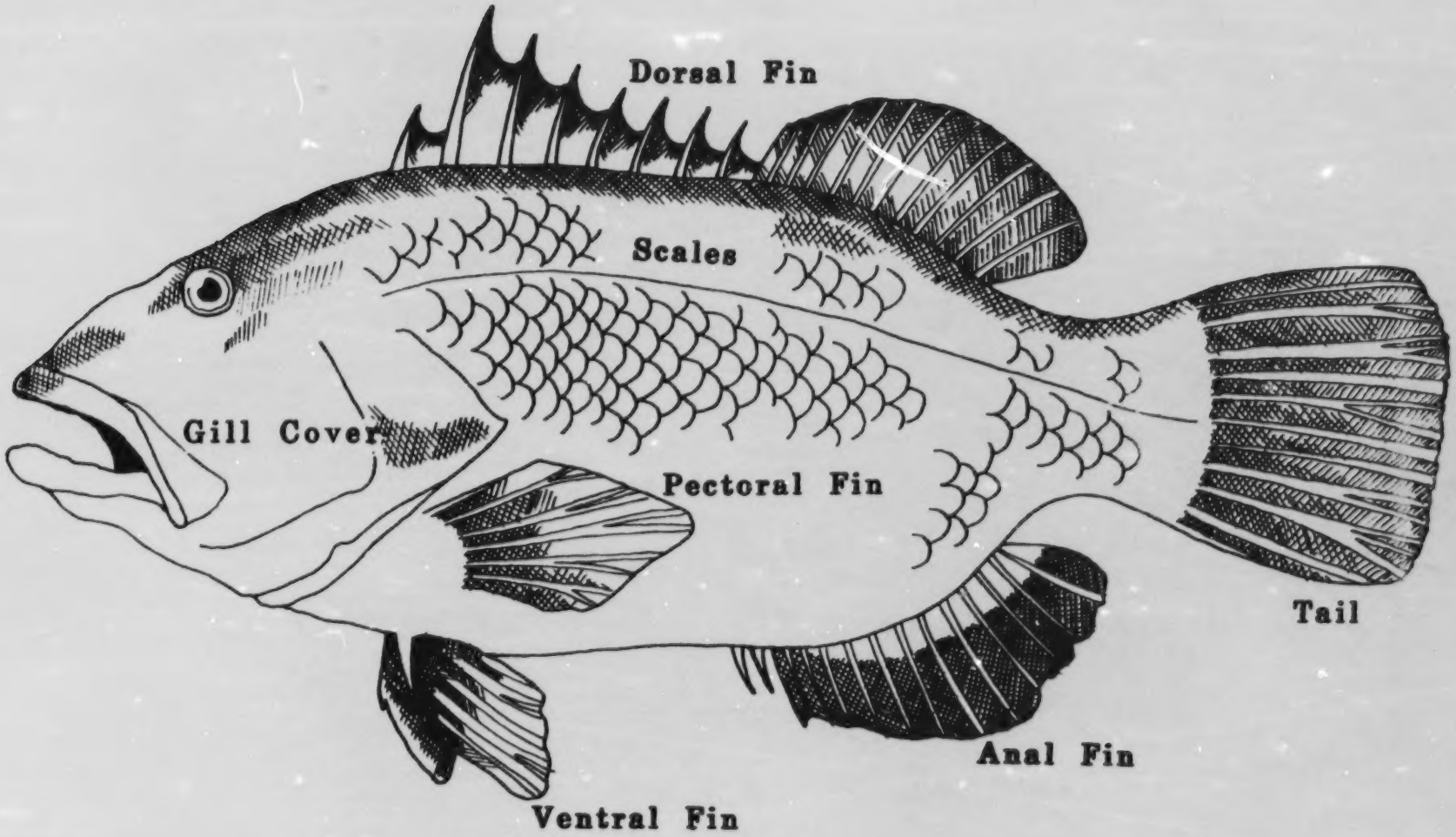
dolphin

skin



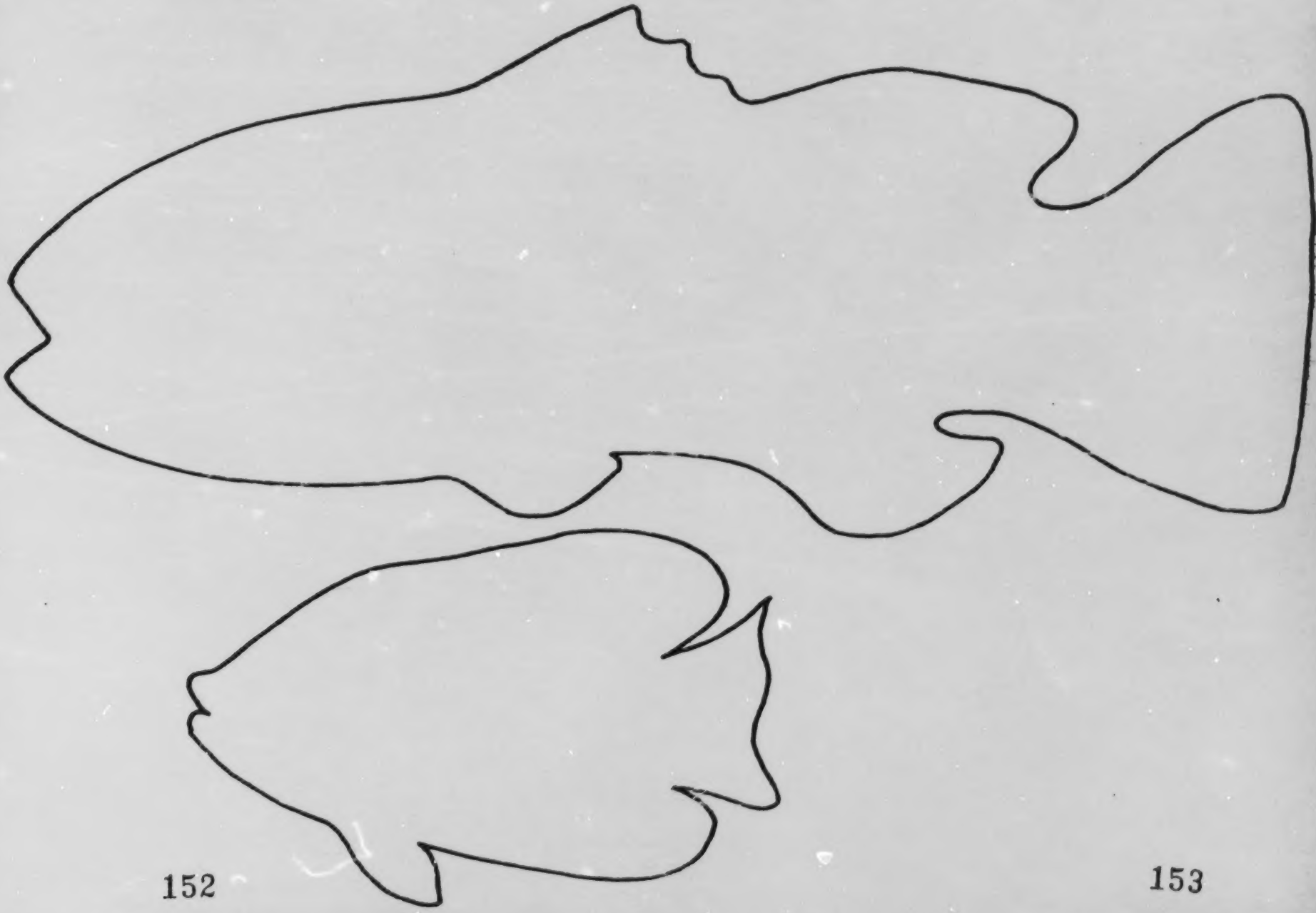
turtle

shell


Dorsal Fin
Scales
Gill Cover
Pectoral Fin
Tail
Anal Fin
Ventral Fin

K-2a
4.1

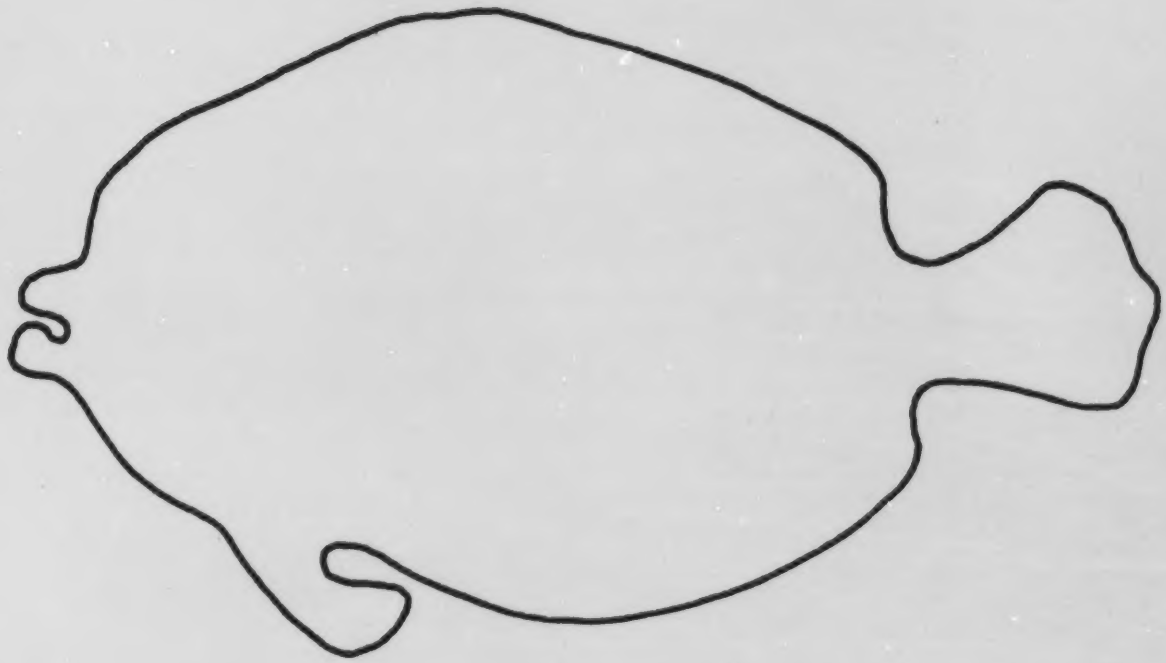
K-2a
6.1



152

153

K-2a
6.2



K-2a
6.3

1

2

3

4

5

6

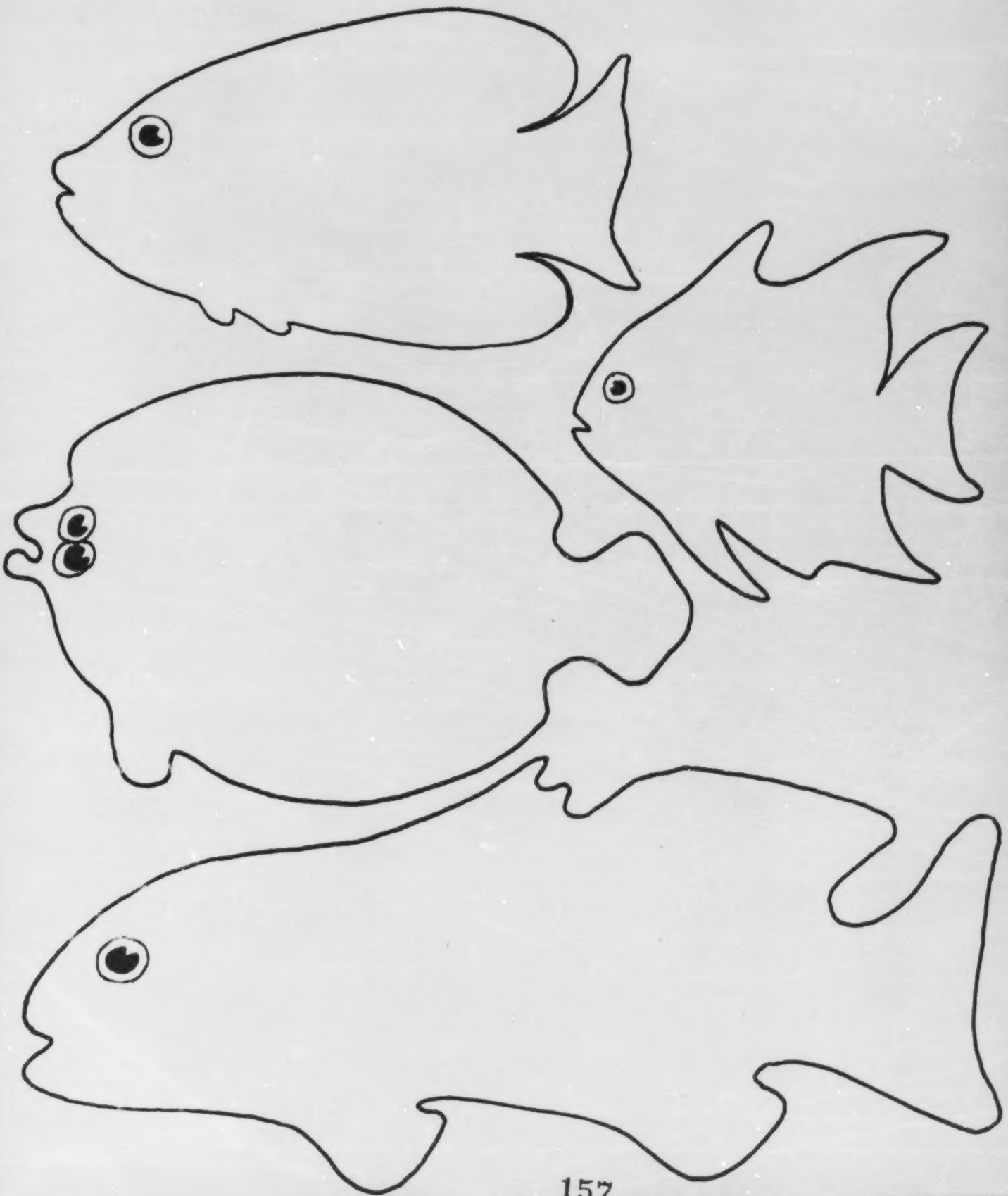
7

8

155

156

These fish need to be decorated. Can you think of four different designs?



WATER WORLD RUMMY

Directions

1. Playing cards are included in the media package.

2. Two to four players may play Water World Rummy.

3. One student should serve as dealer. Each player gets five cards.

4. Place the remaining cards face down on the table.

5. The game begins with the player to the left of the dealer.

6. Try to make books of water world creatures by collecting four like creature cards together.

7. Each player asks the player to the left for a creature. If the player does not have the creature, the asking player then draws one creature card from the center pile.

8. The player with the most books of creatures at the end of the game is the winner.

Seagull

Eel

Sperm Whale

Tern

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

Seahorse

Seahorse

Shark

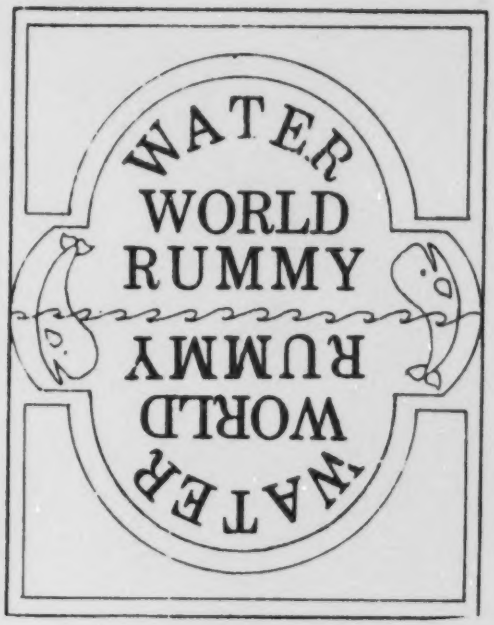
Shark

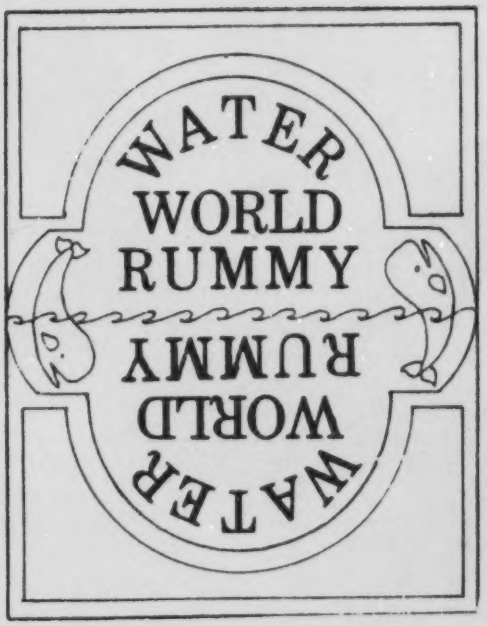
Manta Ray

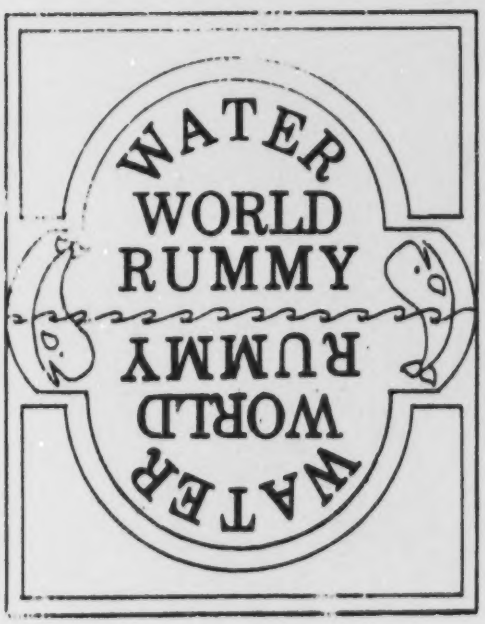
Manta Ray

Crab

Crab


WATER
WORLD
RUMMY
RUMMY
WORLD
WATER


WATER
WORLD
RUMMY
RUMMY
WORLD
WATER


WATER
WORLD
RUMMY
RUMMY
WORLD
WATER

WATER
WORLD
RUMMY
RUMMY
WORLD
WATER

Crab

Crab

Manta Ray

Manta Ray

Shark

Shark

Seahorse

Seahorse

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

Tern

Tern

Sperm Whale

Sperm Whale

Eel

Eel

Seagull

Seagull

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

Tern

Tern

Sperm Whale

Sperm Whale

Eel

Eel

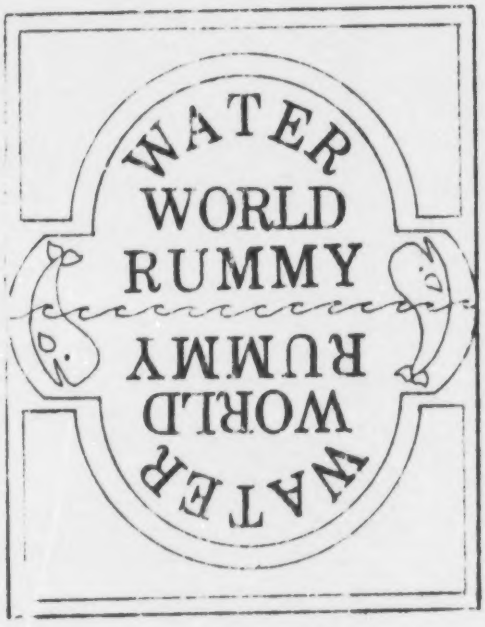
Seagull

Seagull

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY

WATER
WORLD
RUMMY


WATER
WORLD
RUMMY

Fish

Fish

Angler Fish

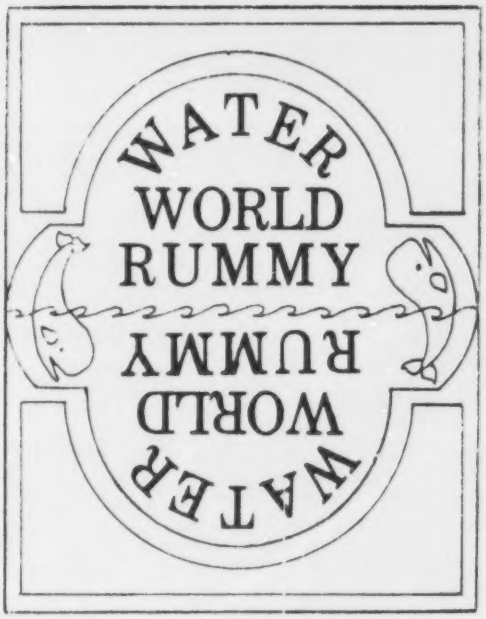
Angler Fish

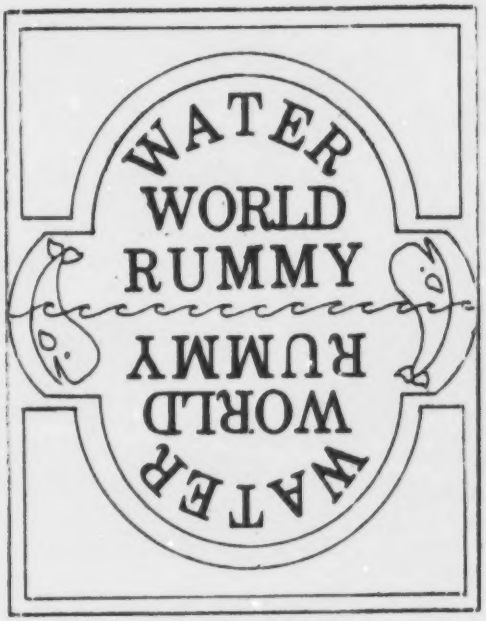
Dolphin

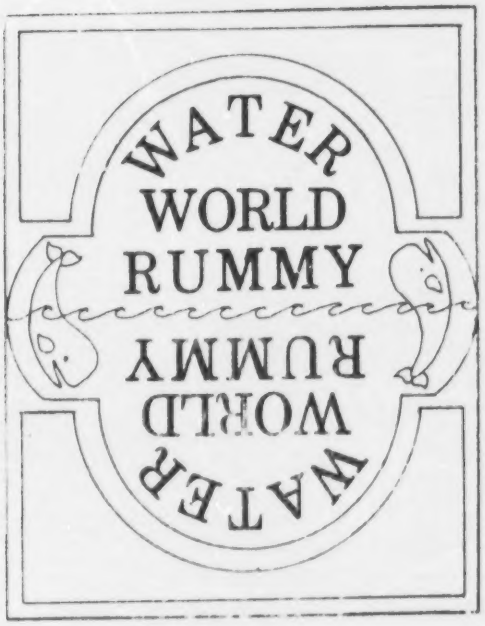
Dolphin

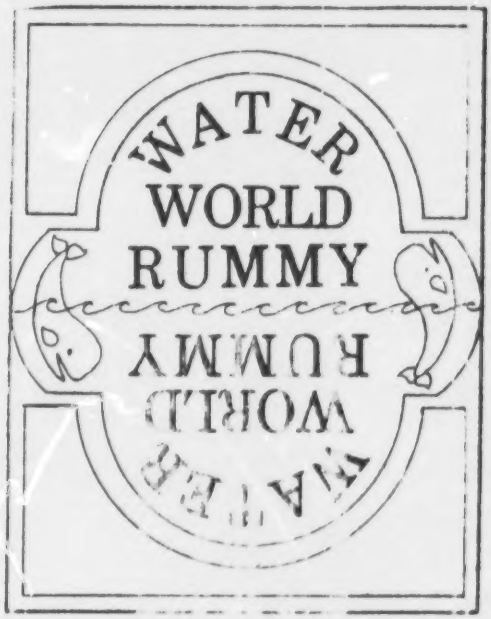
Sea Turtle

Sea Turtle


WATER
WORLD
RUMMY


WATER
WORLD
RUMMY


WATER
WORLD
RUMMY


WATER
WORLD
RUMMY

Sea Turtle

Dolphin

Angler Fish

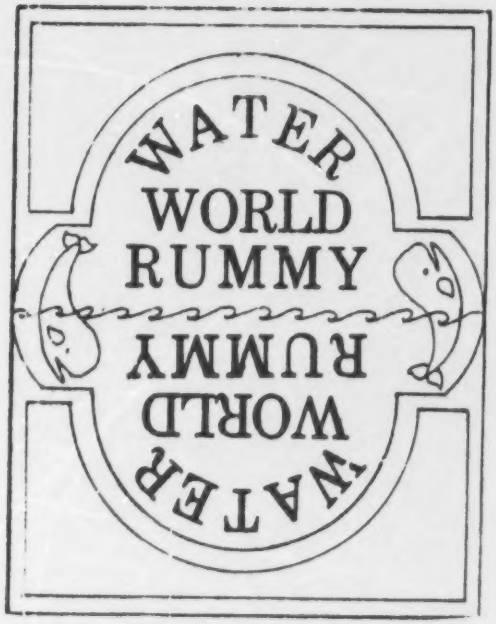
Fish

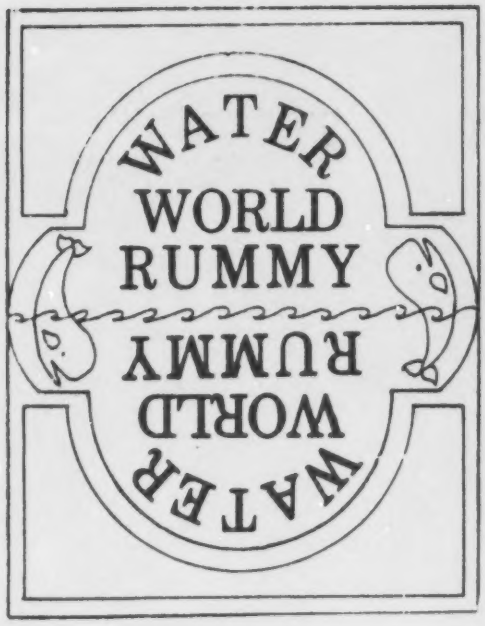
Sea Turtle

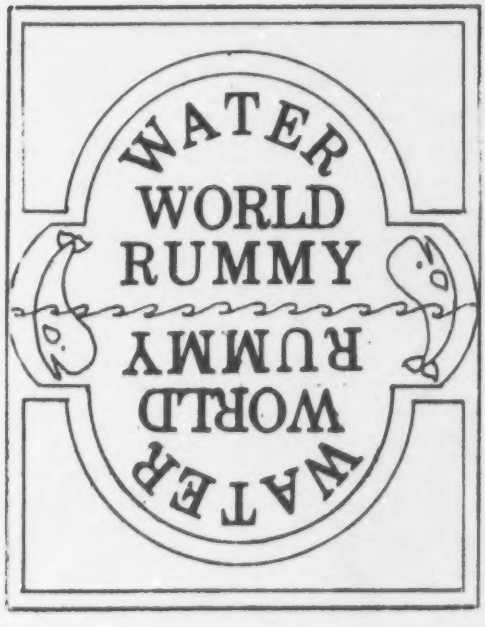
Dolphin

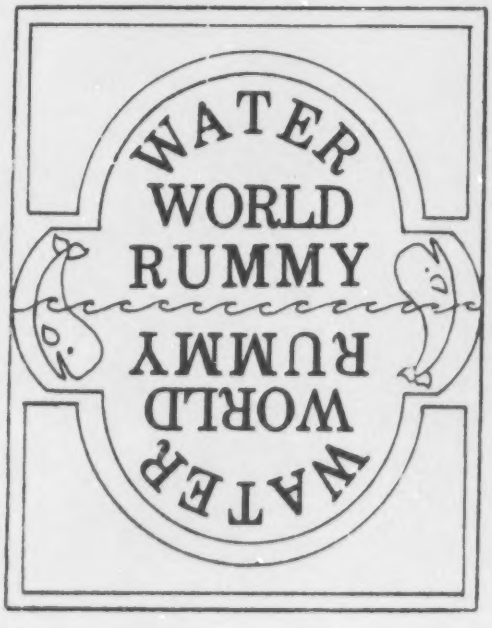
Angler Fish

Fish

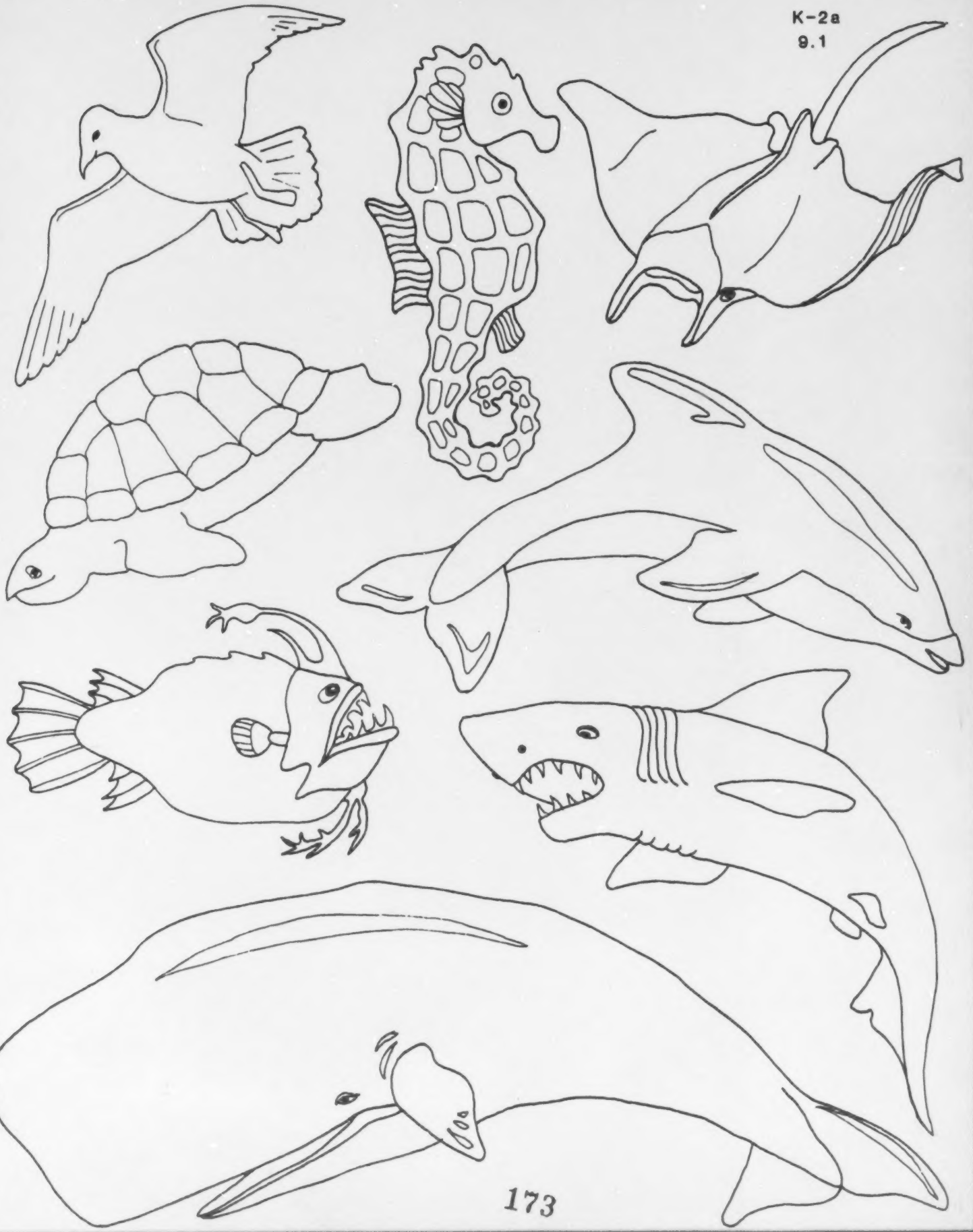

WATER
WORLD
RUMMY
RUMMY
WORLD
WATER


WATER
WORLD
RUMMY
RUMMY
WORLD
WATER

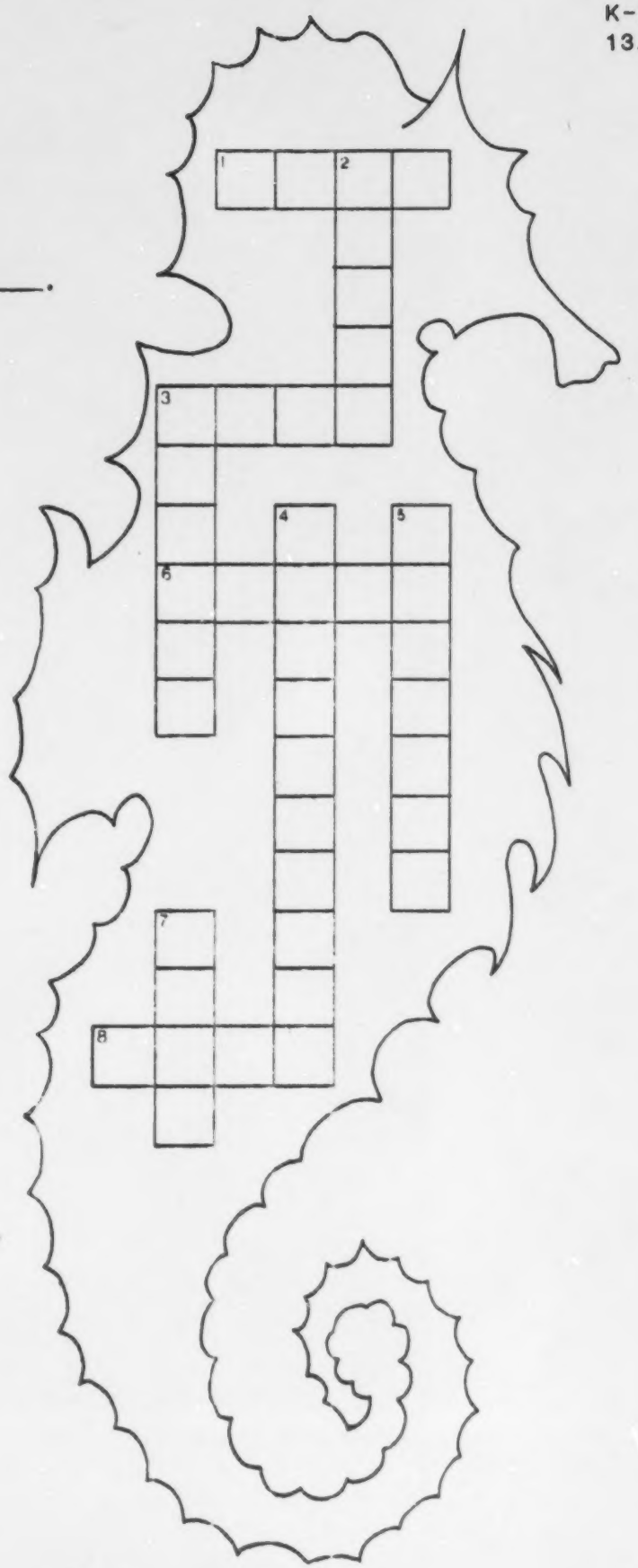

WATER
WORLD
RUMMY
RUMMY
WORLD
WATER


WATER
WORLD
RUMMY
RUMMY
WORLD
WATER

K-2a
9.1



A Seahorse Of Course!



ACROSS

1. Seahorses hatch from _____.

3. The seahorse swims with its _____.

6. The seahorse looks like a _____.

8. The seahorse is a strange _____.

DOWN

2. The seahorse breathes with _____.

3. The brood pouch is on the body of the _____.

4. Seahorse eggs are carried in a _____.

5. Seahorses like to curl their tails around _____.

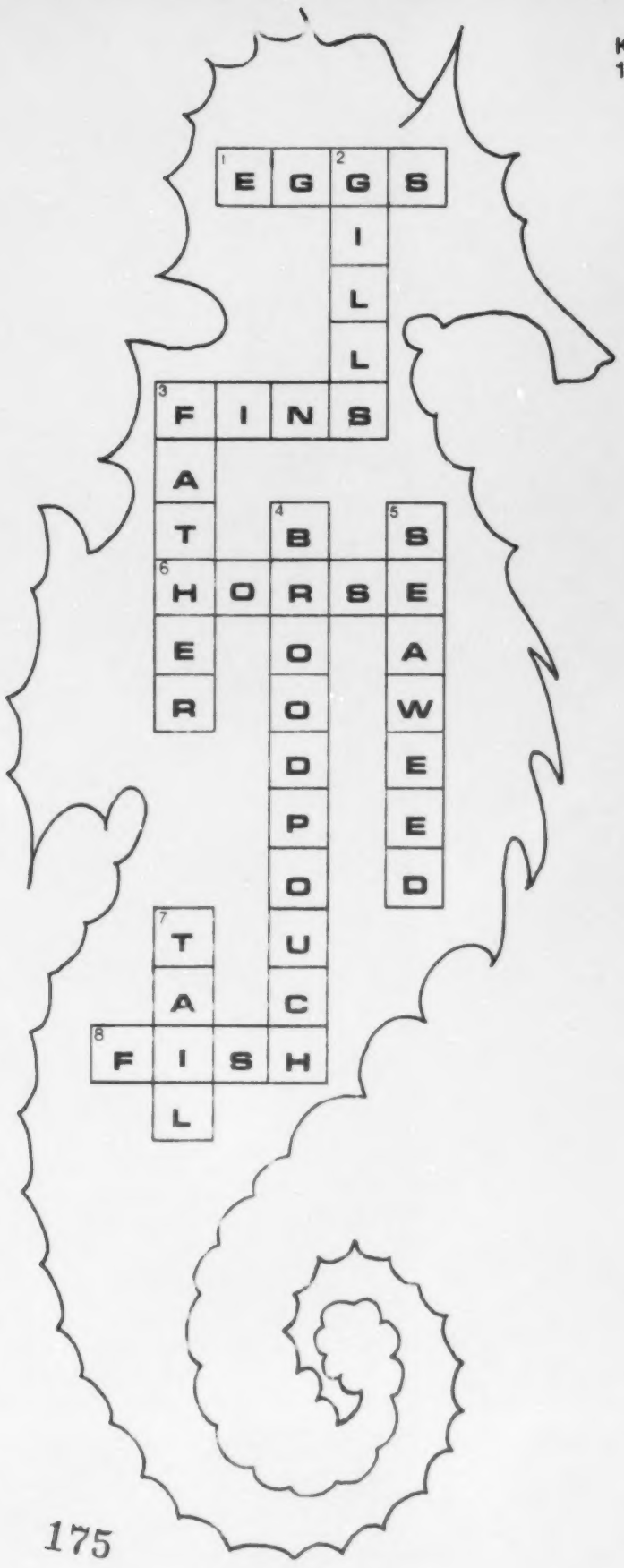
7. The seahorse can curl its _____.

WORD LIST

TAIL	EGGS	FATHER
GILLS	FINS	SEAWEED
FISH	HORSE	BROODPOUCH

A Seahorse Of Course!

(Answer Sheet)



SEAHORSE SEARCH

T A X O B H I G G E L

D F I S H L J I K R A

E A M D E I K L Q S N

E N Y F I N S L J E T

P O B C C H L S D A E

B R O O D P O U C H R

P C U R R E N T P O N

E Q X B F T A I L R L

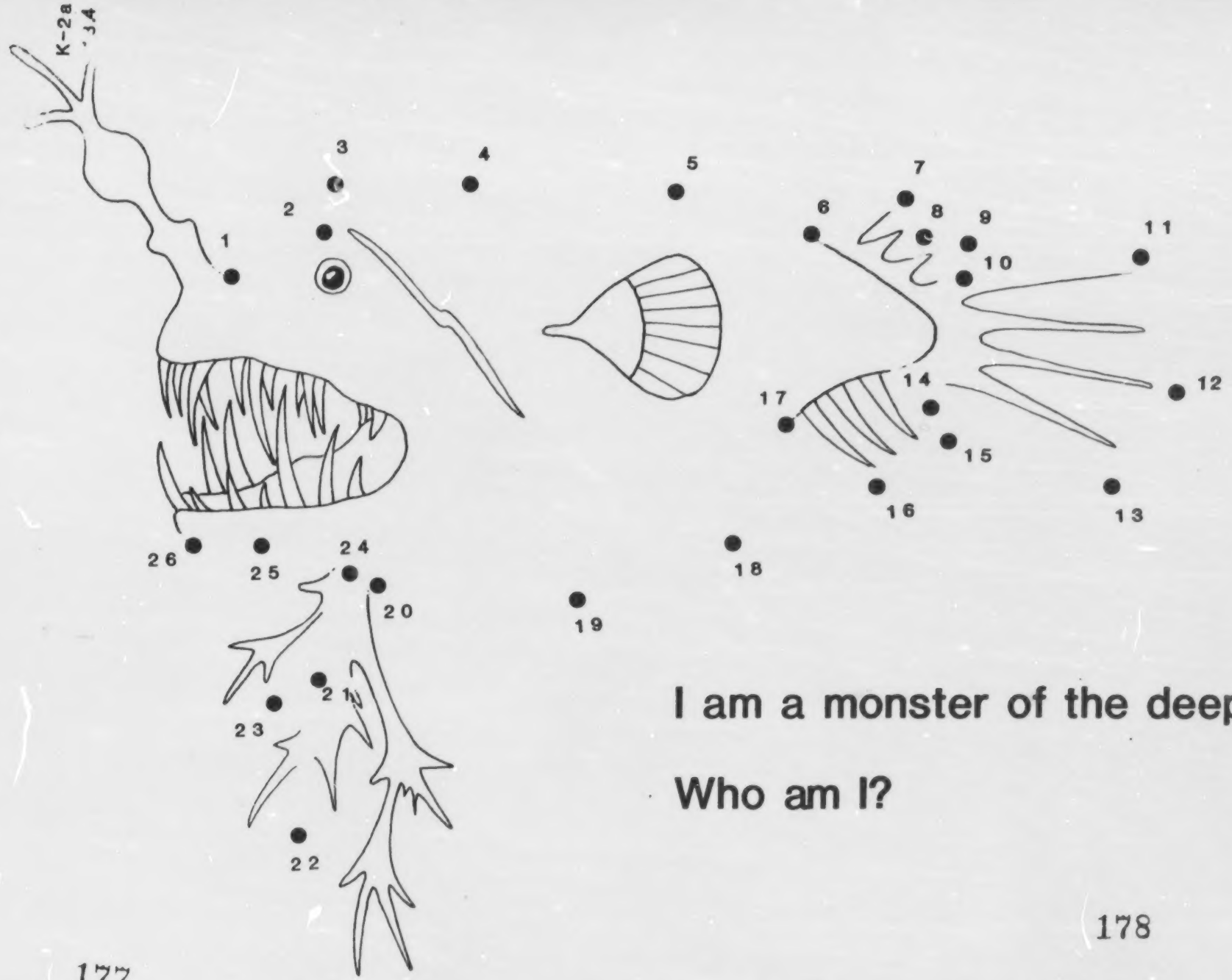
R S W O C E A N O S S

T E G G S F M G N E H

U V Z A G F A T H E R

TO FIND:

GILLS
SEAHORSE
BROODPOUCH
TAIL
EGGS
FISH
LANTERN
FATHER
FINS
OCEANS
DEEP
CURRENT



177

I am a monster of the deep.

Who am I?

178

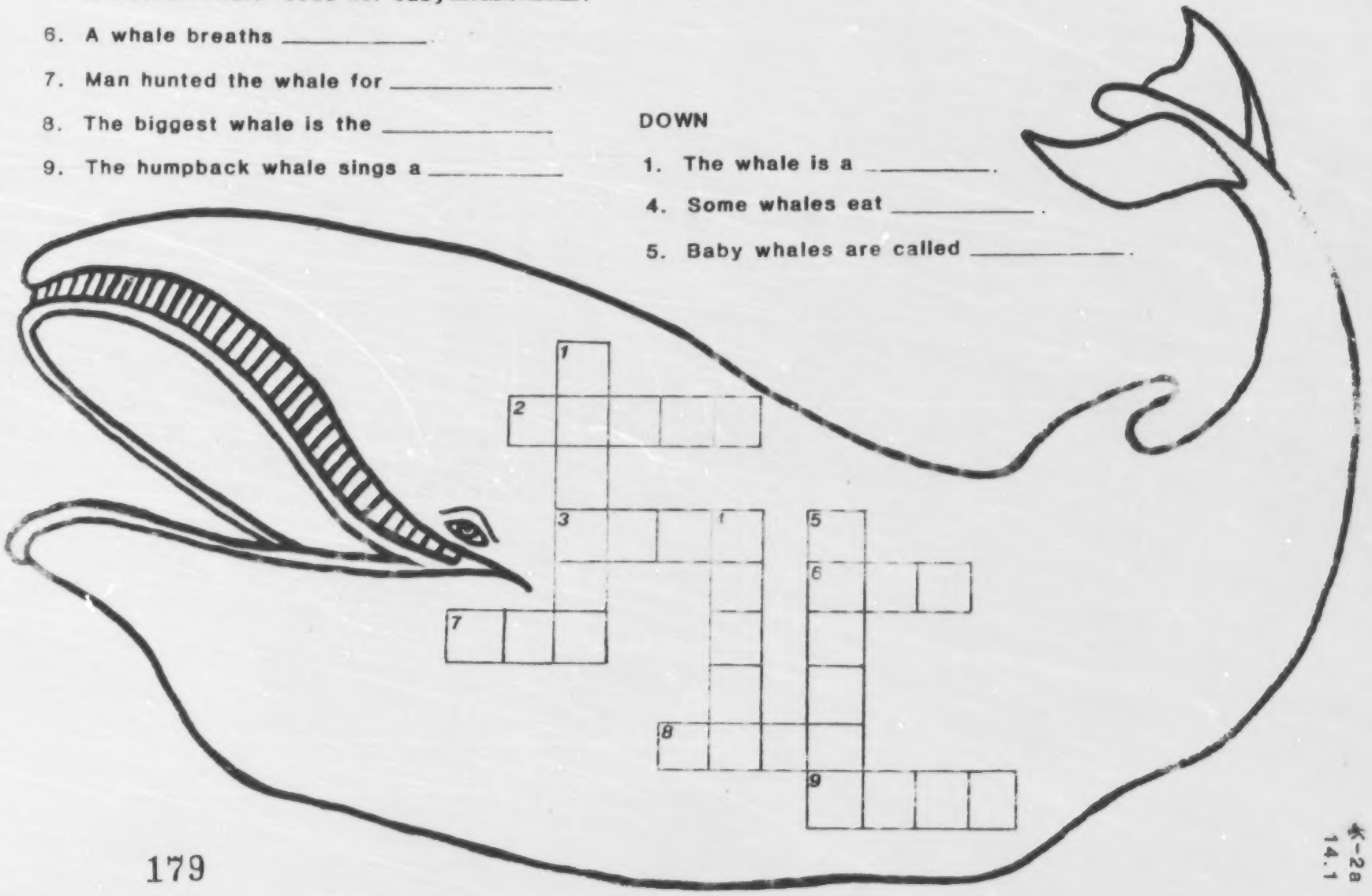
WHALE WORDS

ACROSS

2. A whale lives in the _____.
3. A mother whale feeds her baby_____.
6. A whale breaths _____.
7. Man hunted the whale for _____.
8. The biggest whale is the _____
9. The humpback whale sings a _____

DOWN

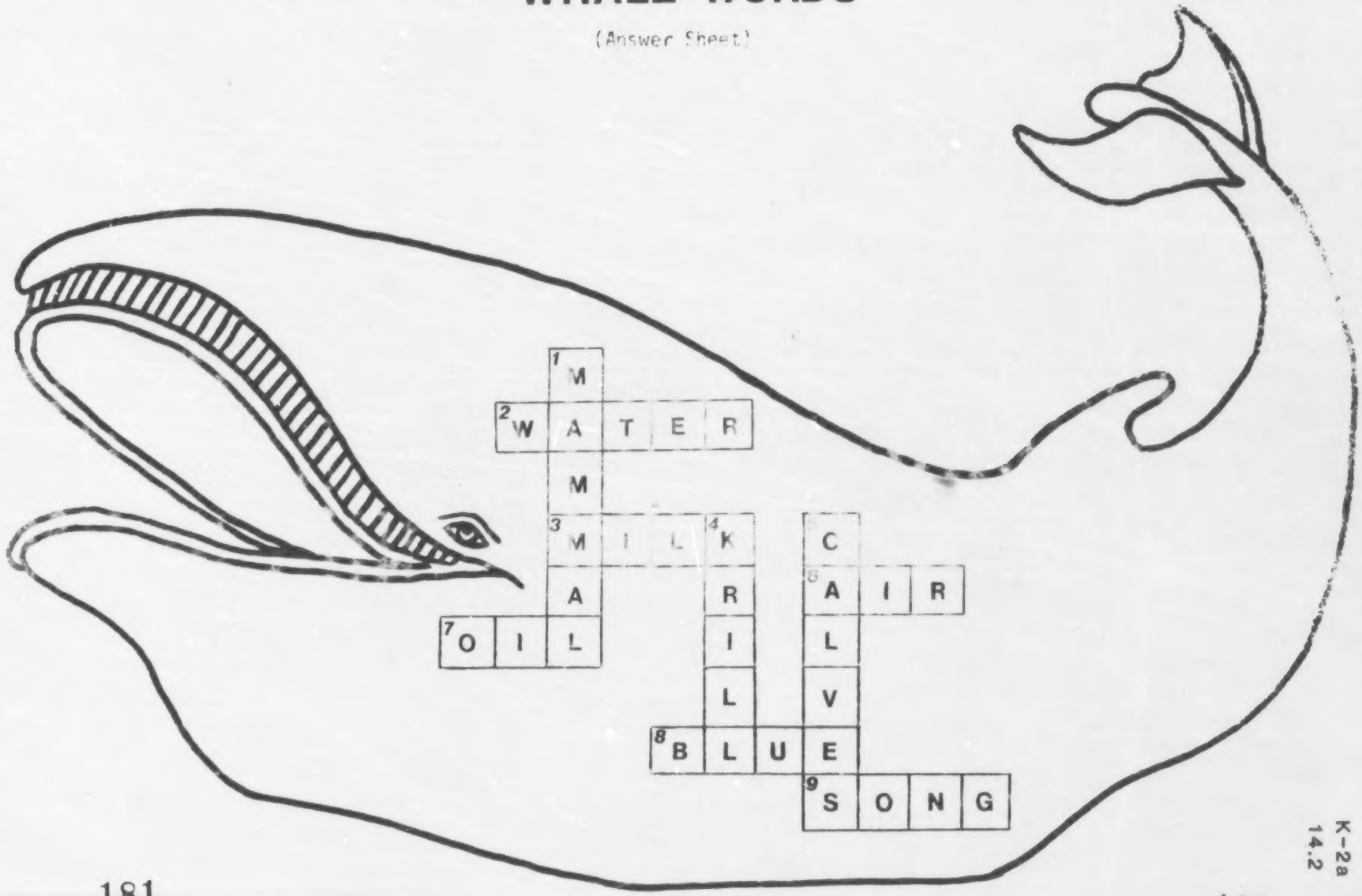
1. The whale is a _____.
4. Some whales eat _____.
5. Baby whales are called _____.



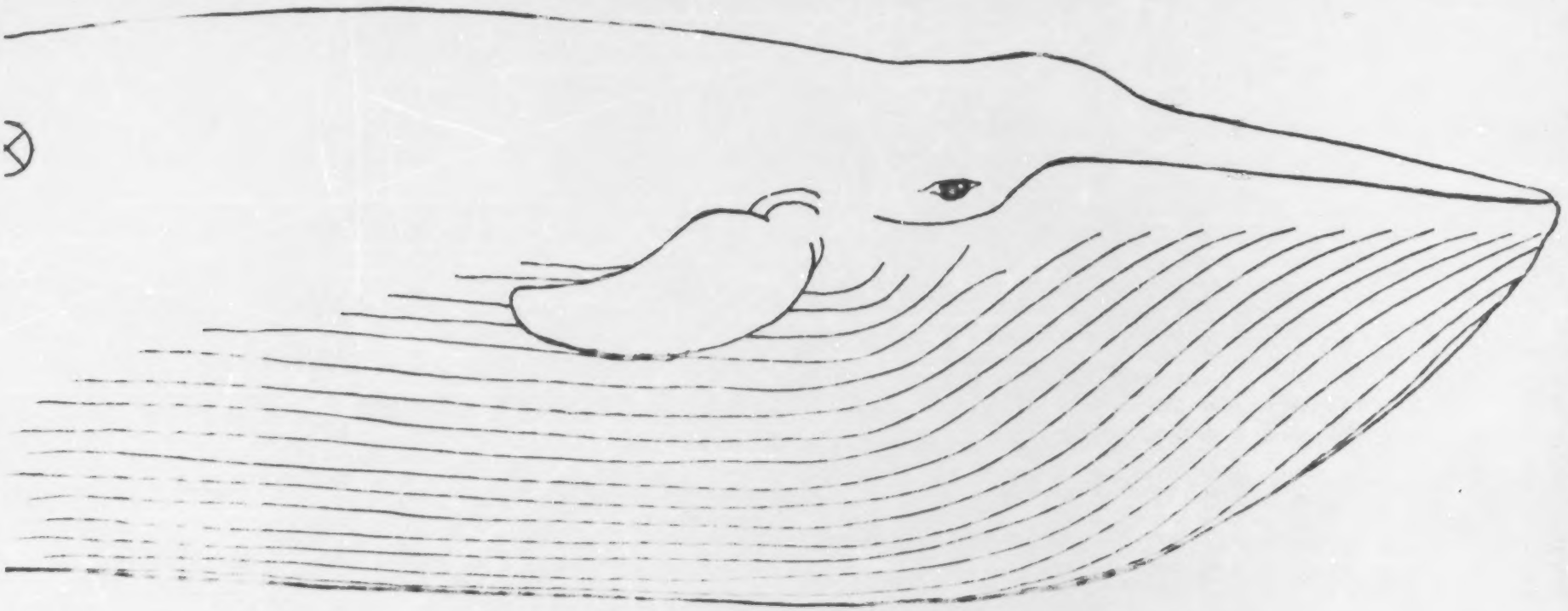
K-2a
14.1

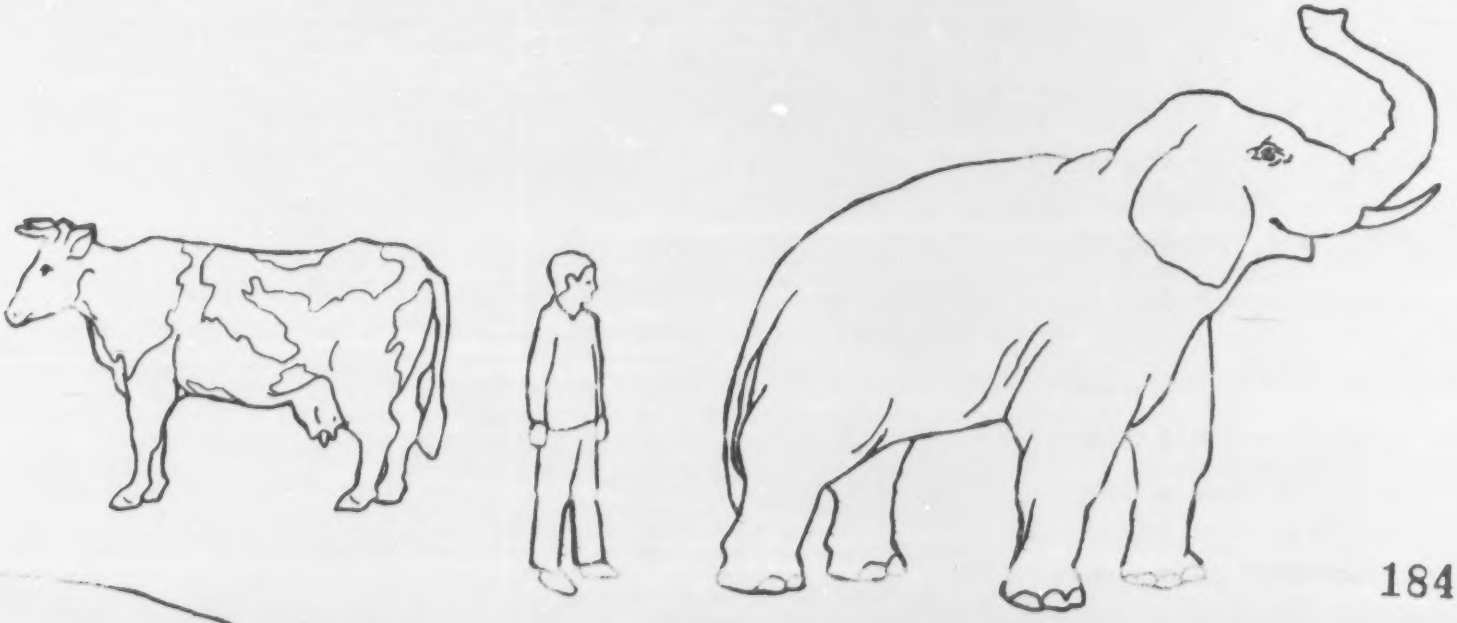
WHALE WORDS

(Answer Sheet)



K-2a
14.2

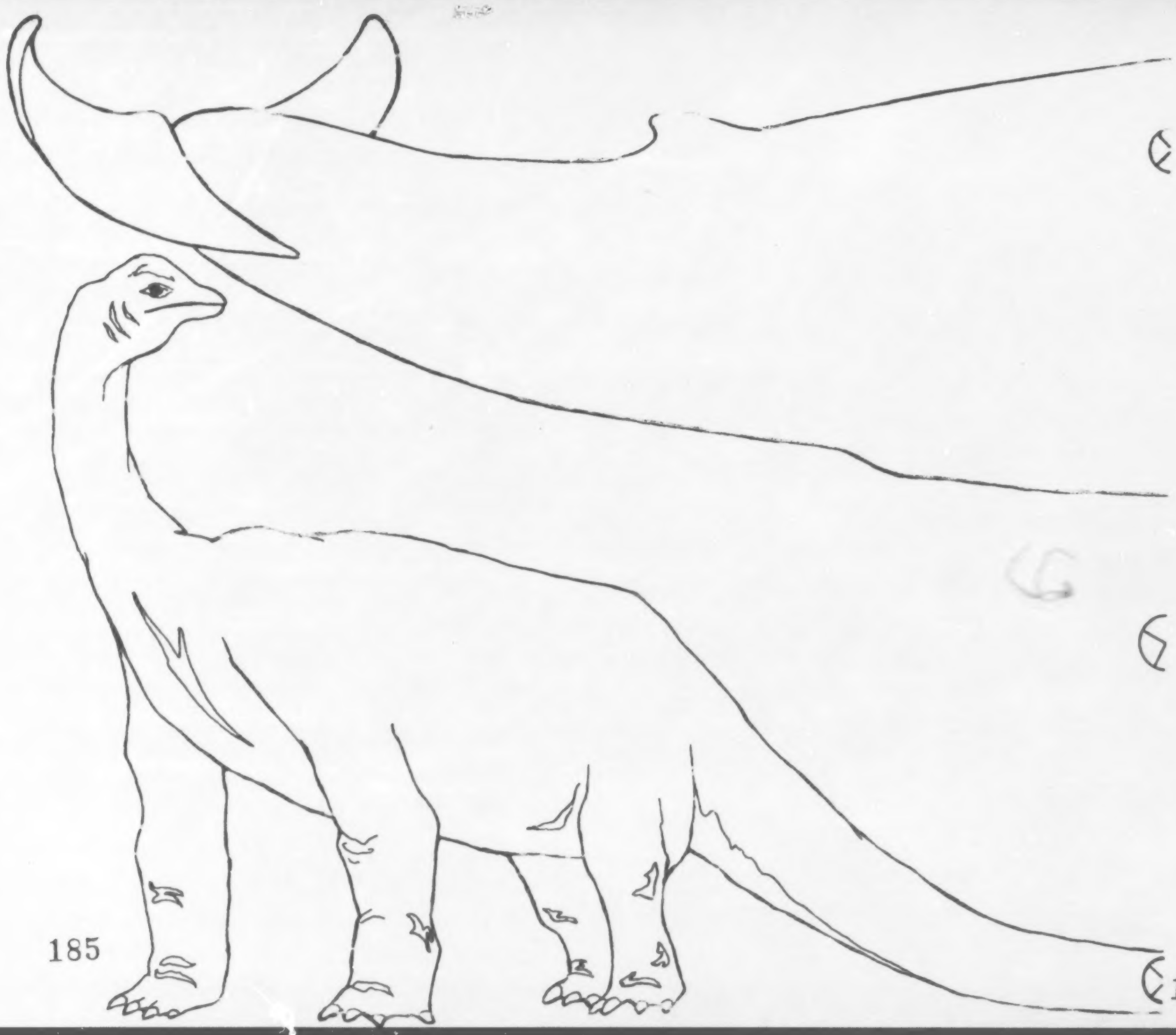




183

184

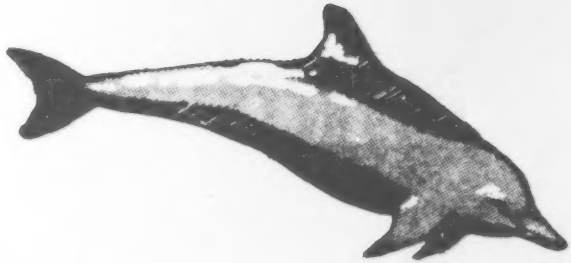
K-2a
15.1



185

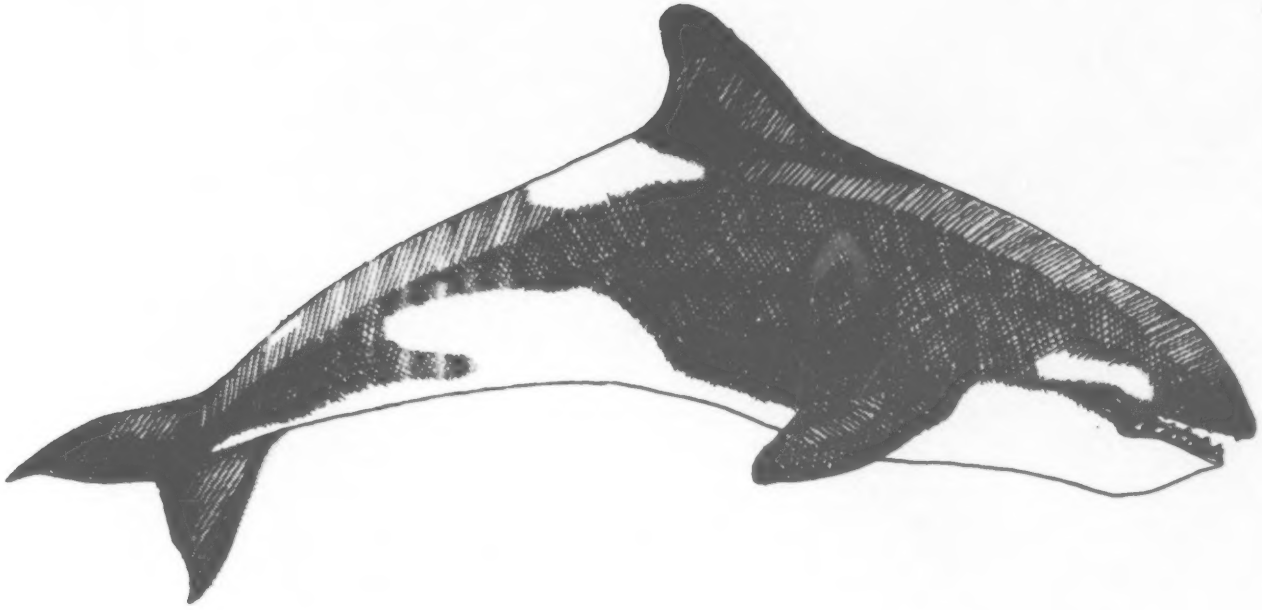
186

K-2a
15.2



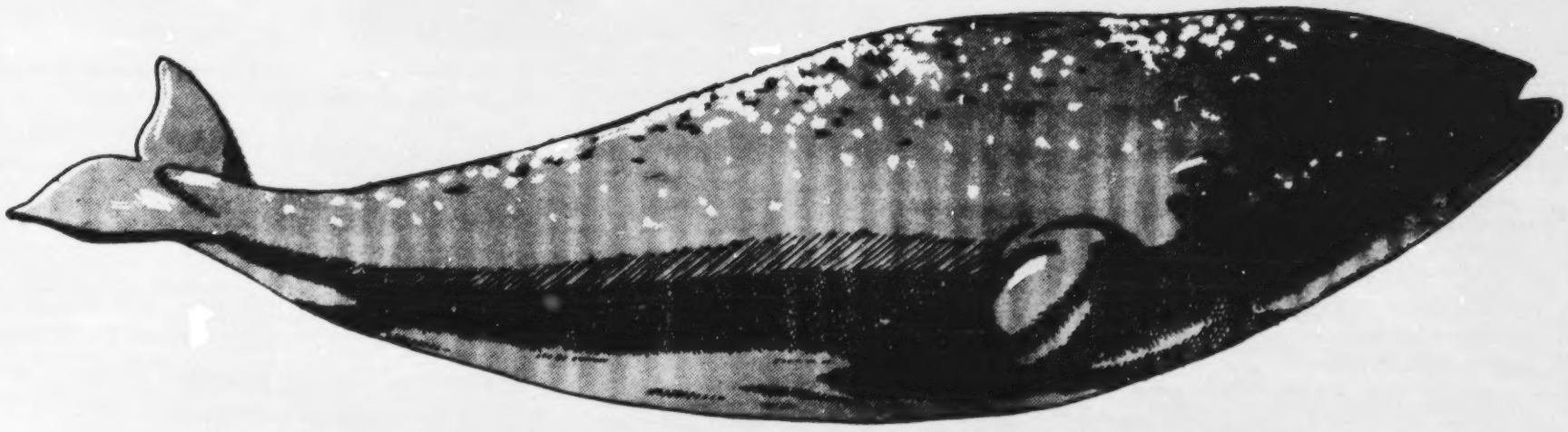
Common Dolphin

8 feet



Killer Whale

30 feet

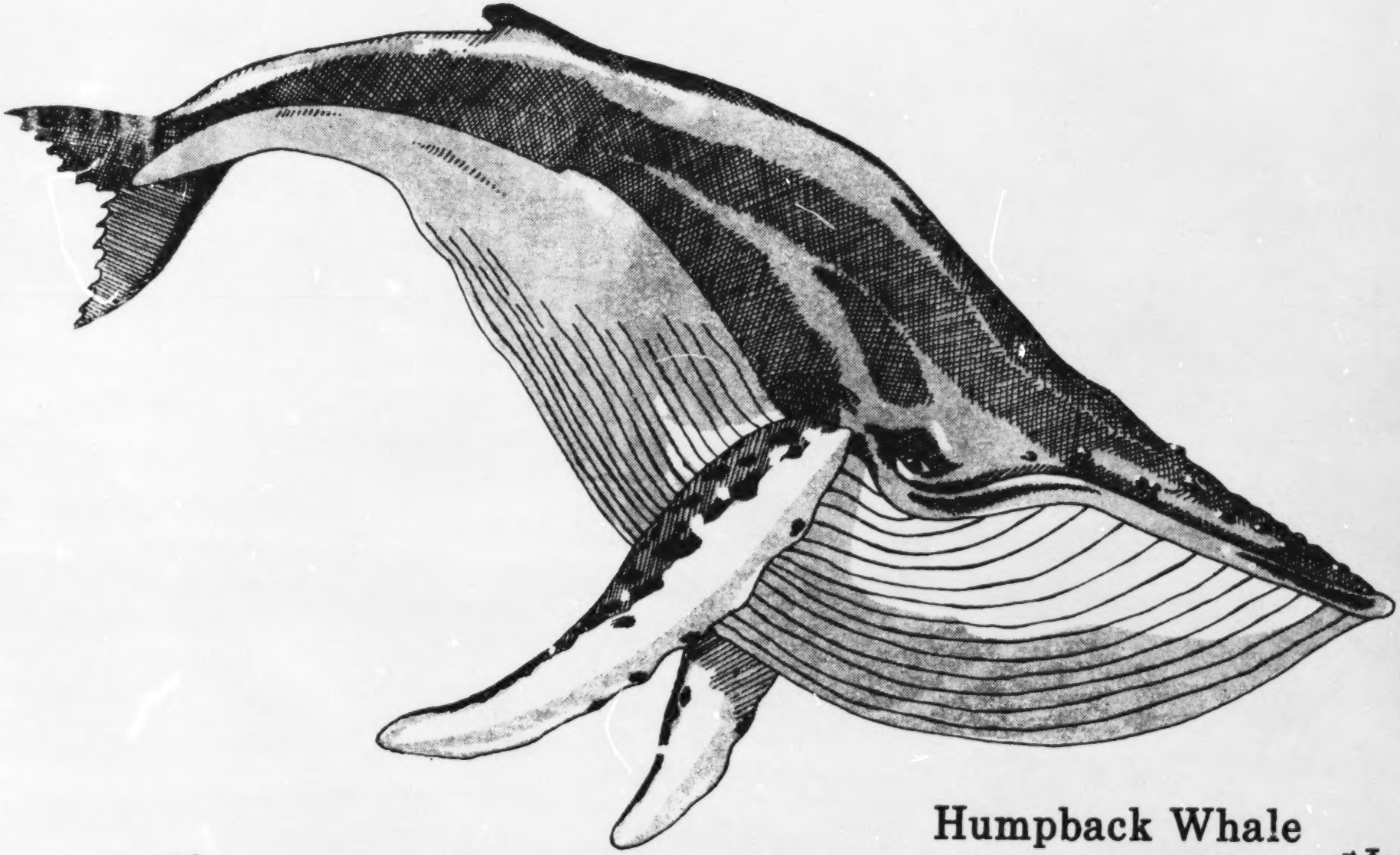


190

Gray Whale

45 feet

191



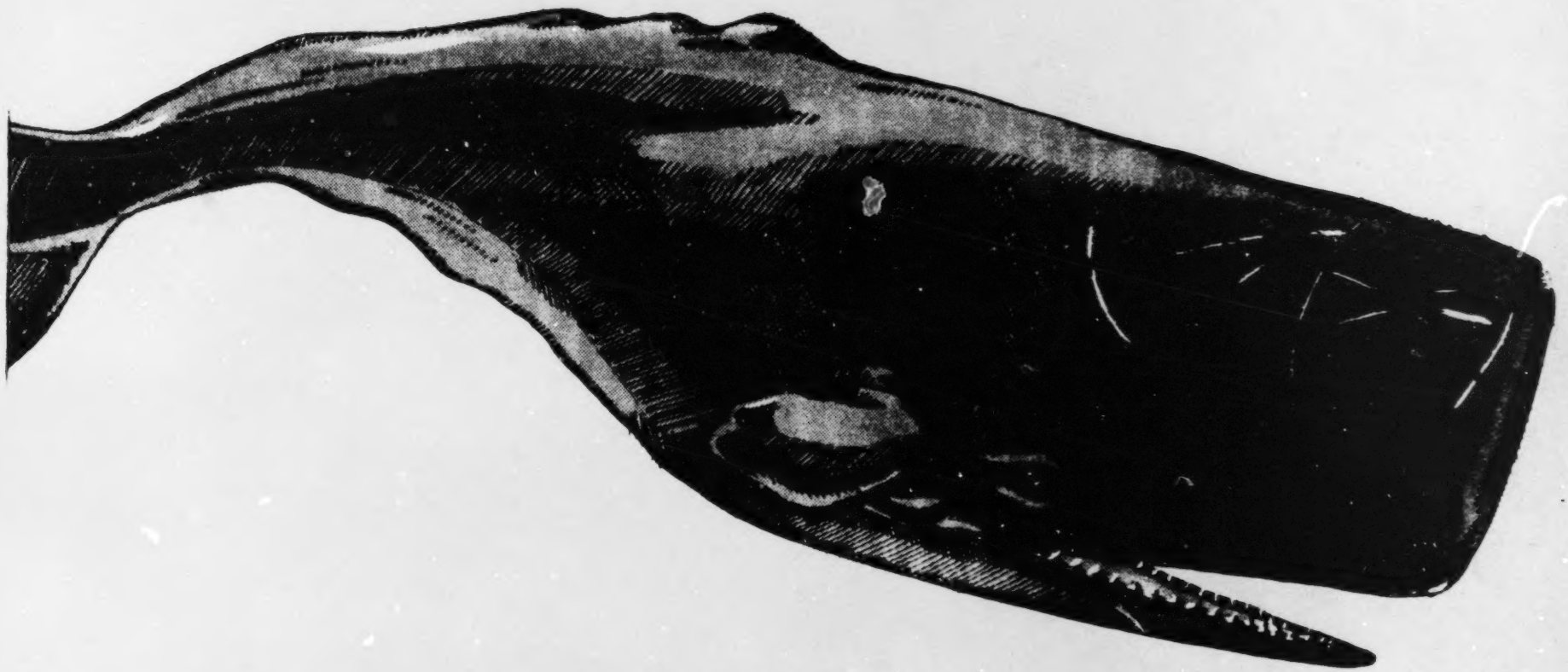
Humpback Whale

192

50 feet

K-2a
17.4

193



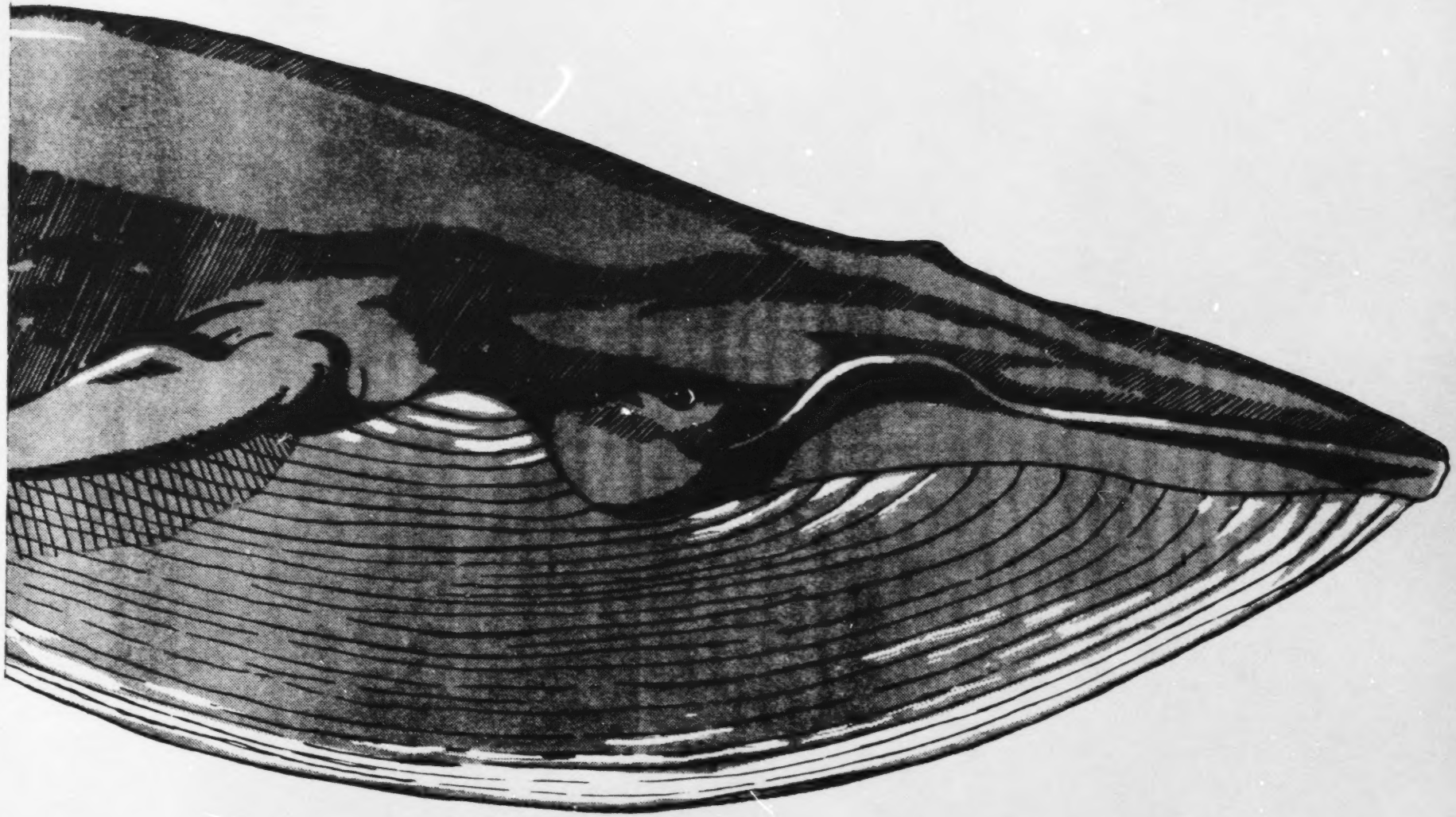
194

Sperm Whale

60 feet

195

K-28
17.6

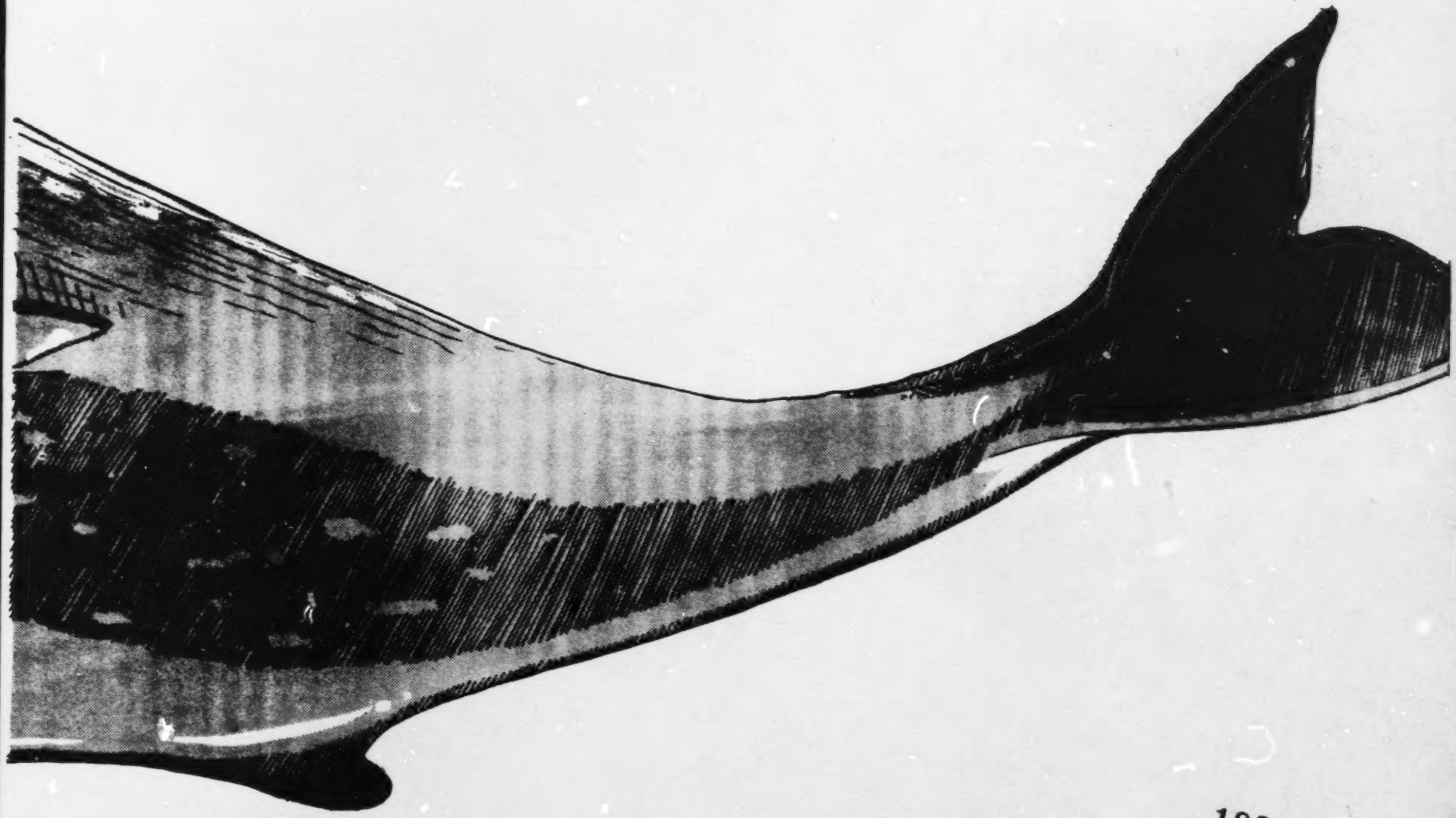


Blue Whale

100 feet

K-2a
17.6

K-2a
17.7



198

199

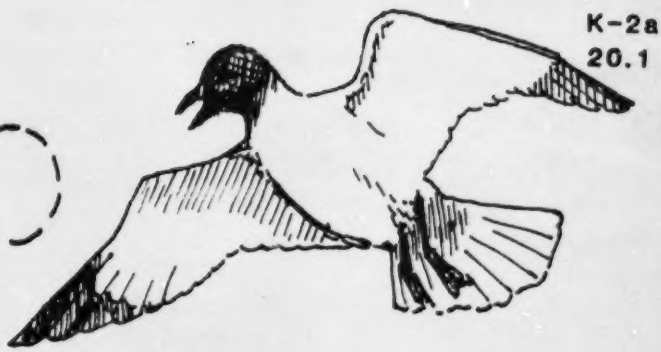
I swim in the ocean.

I sing a sweet song.

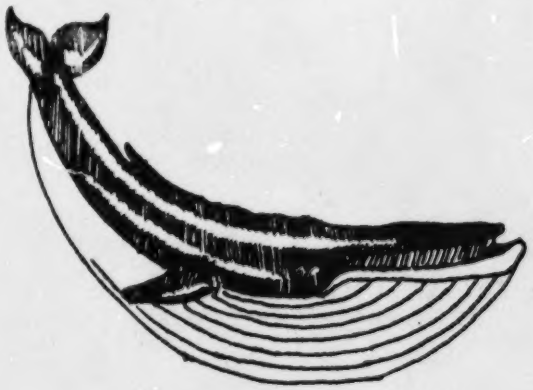
Who am I?

K-2D
19.1

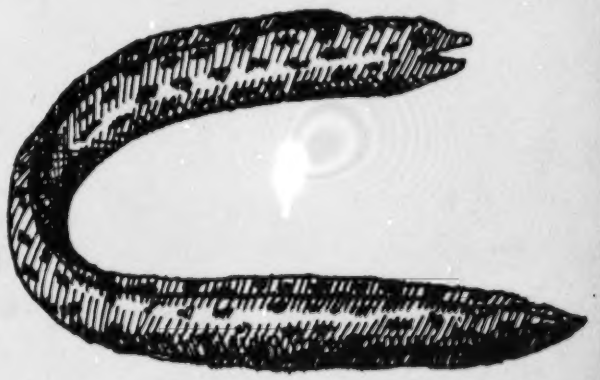
feathers
fly
hollow bones



mammal
largest
blowhole



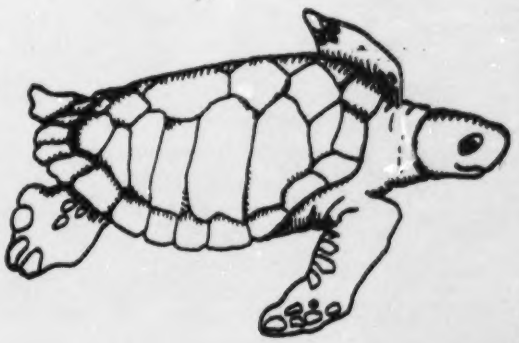
snake-like
tiny scales
electric



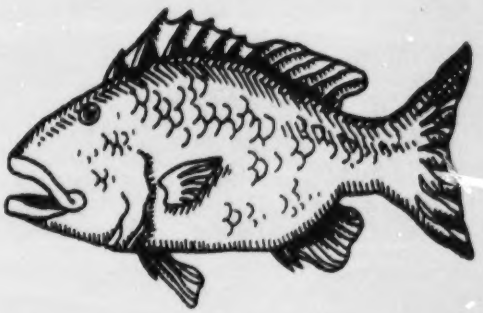
sharp teeth
gills
cartilage

flippers
smart
fast

shell
slow
lays eggs



fins
gills
scales



curled tail
pouch
head like a horse

A WHALE OF A RIDDLE

Directions

1. Two, three or four players may play "Whale of a Riddle."

2. Each player chooses a marker. Place the marker on START.

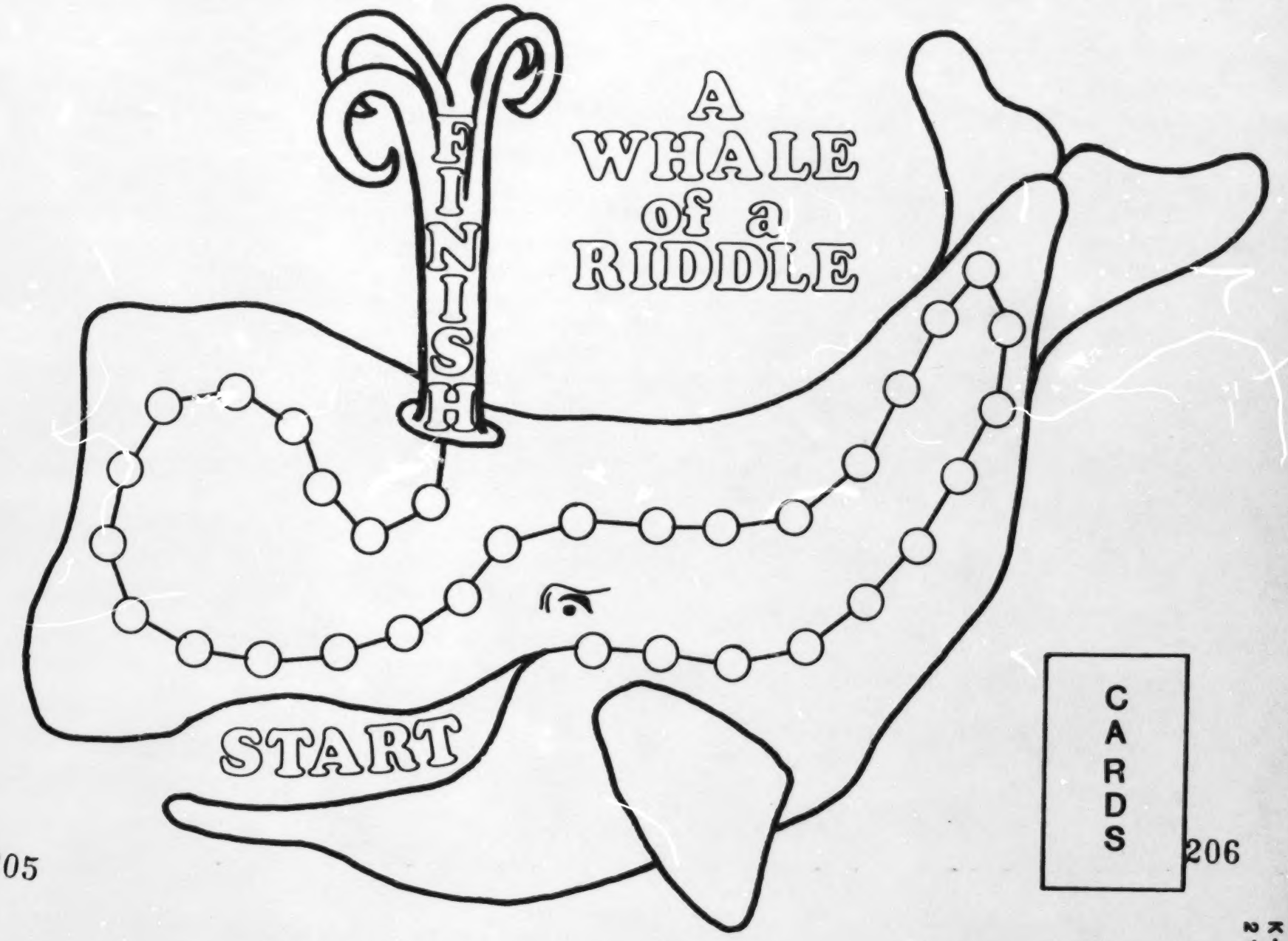
3. Roll the die to determine the order of the players.

4. The first player rolls the die. Take a riddle card. Read the riddle out loud. Answer the riddle. Check the answer by matching the number on the riddle card to the number on the answer wheel.

5. If your answer is correct, you may move the number of spaces on the die. If your answer is not correct, you may not move any spaces on this turn.

6. Players take turns rolling the die and answering riddles.

7. The first person to FINISH wins the game.



205

CARDS

206

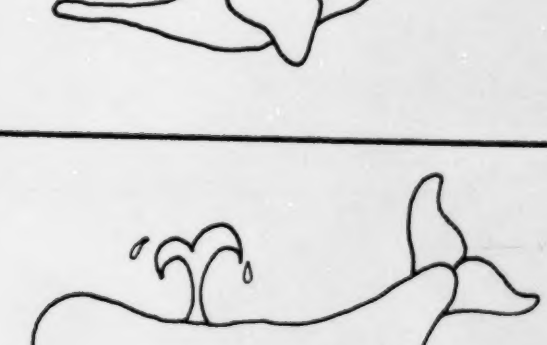
K-2
21.2

air
skin
gills
seahorse
teeth
scales
fin
shell
baleen
seahorse
feathers
krill
fin
bird
fin
egg
wing
teeth
seahorse
scales
egg
gills
gills
blowhole
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
17
18
19
20
21
22
23
24

Answer Wheel
Whale of a Riddle

K-2a
21.3

K-2a
21.4



1 A bird hatches from an _____.	K-2a 21.3 2 The fish's body is covered with_____.
3 My head is shaped like a horse.	4 A shark eats with its_____.
5 I help a bird to fly.	6 Sea turtles hatch from an_____.
7 I help a shark to swim.	8 I have hollow bones.

9

I help a fish to swim.

K-2a
21.6 10

The Blue Whale eats_____.

11

I cover the bird's body.

12

I swim by swaying from side to side.

13

The Blue Whale uses me to strain food.

14

I hide a turtle.

15

I help the Blue Whale to swim.

16

I cover the fish's body.

17

A shark has rows of sharp _____.

K-2a
21.7
18

I hold on to seaweed with my tail.

19

The fish breathes with_____.

20

The Blue Whale is covered with_____.

21

A bird breathes_____.

22

A whale gets air with_____.

23

The sharks breathe with_____.

24

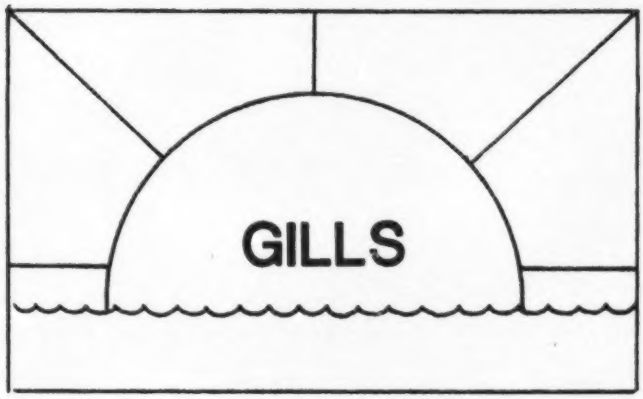
A seahorse breathes with _____.

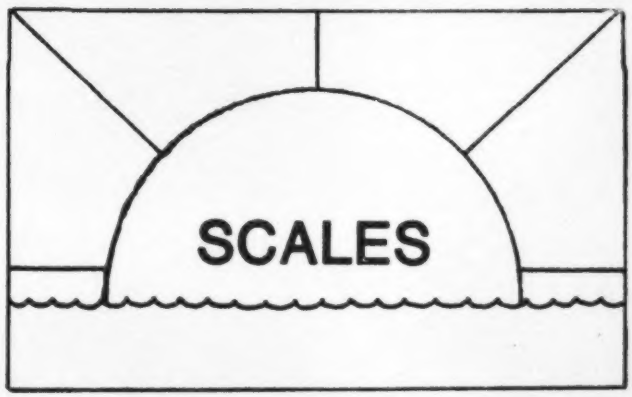
Marine Analogies

1. Arm-Man as _____ -Fish
2. Nose-Man as _____ -Whale
3. Air-Man as _____ -Fish
4. Teeth-Shark as _____ -Whale
5. Lung-Whale as _____ -Fish
6. Skin-Whale as _____ -Turtle
7. Fur-Animal as _____ -Fish
8. Fin-Fish as _____ -Bird

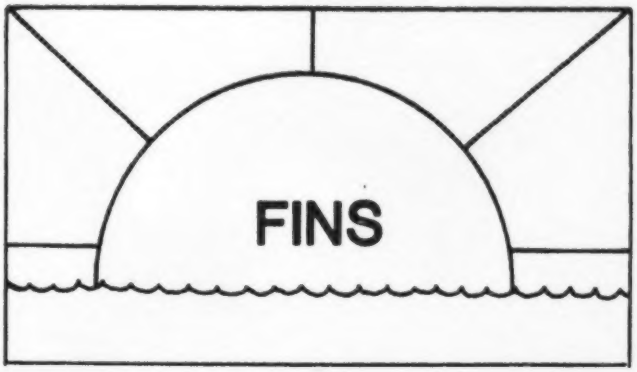
WORD BOX

FIN	WATER	BALEEN
WING	FEATHER	SCALES
GILLS	BLOWHOLE	SHELL


GILLS


SCALES

K-2a 23.1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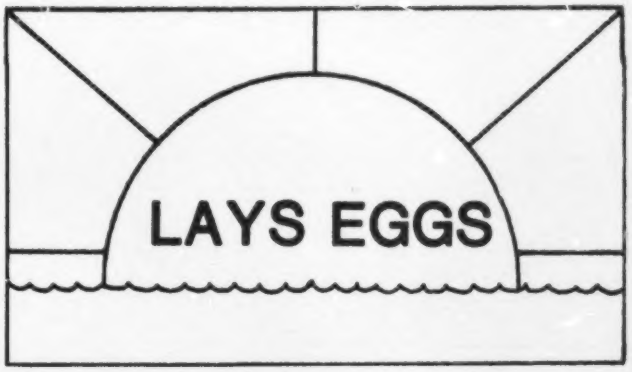
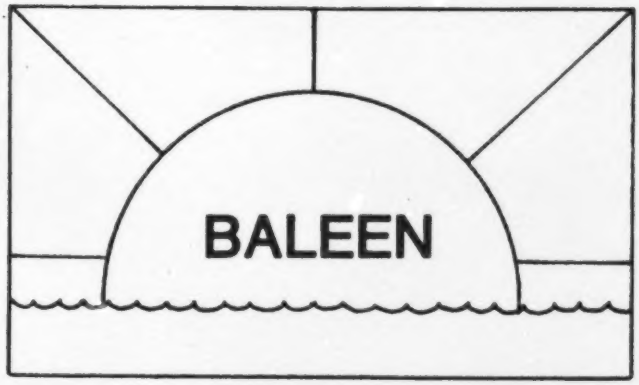
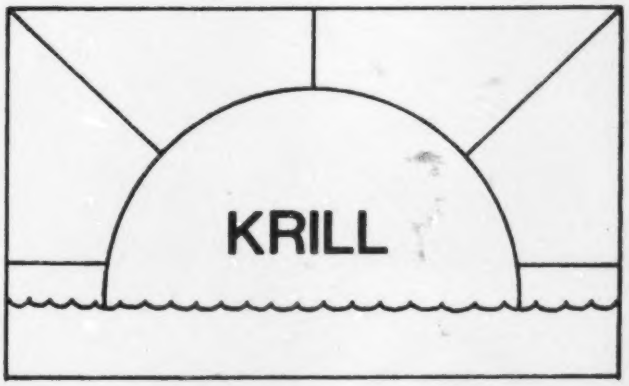
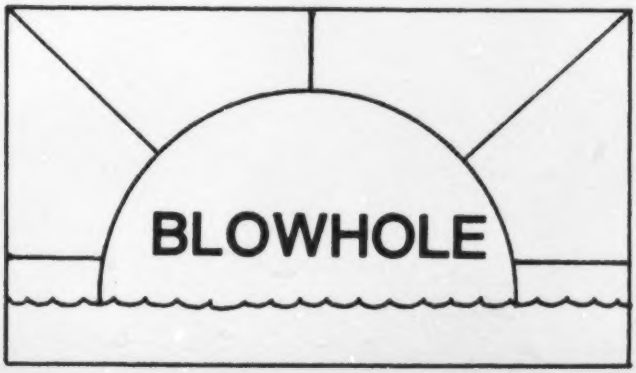
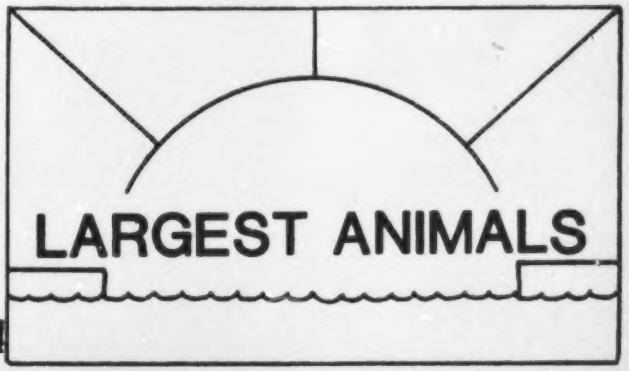
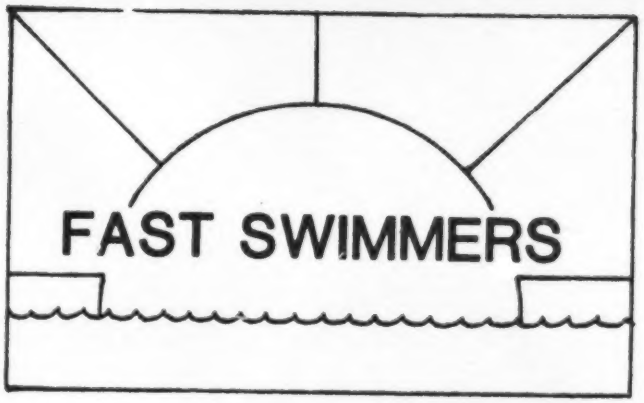

LAYS EGGS

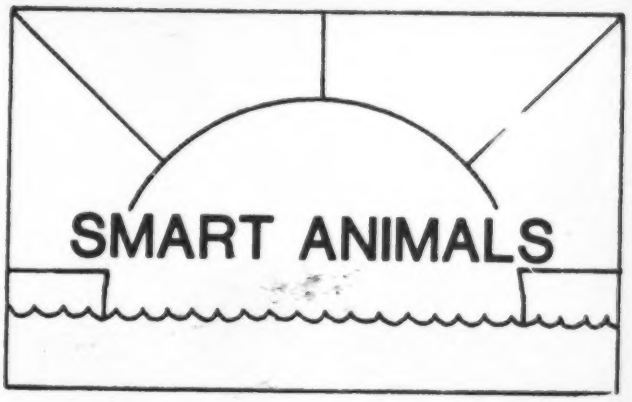

BALEEN


KRILL

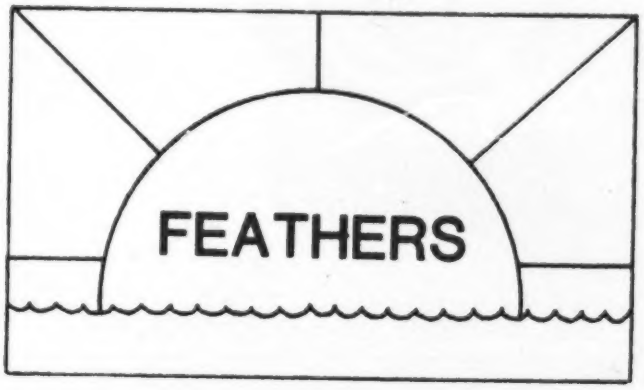

BLOWHOLE

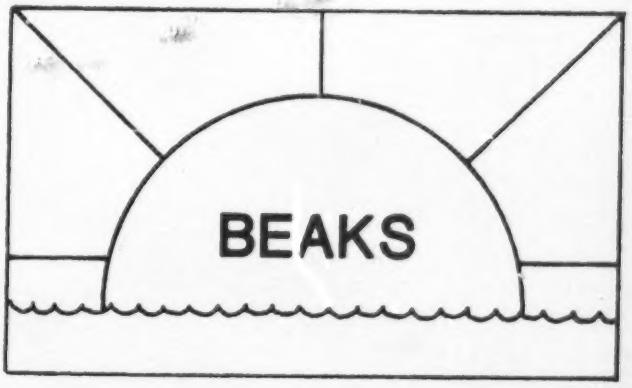

LARGEST ANIMALS

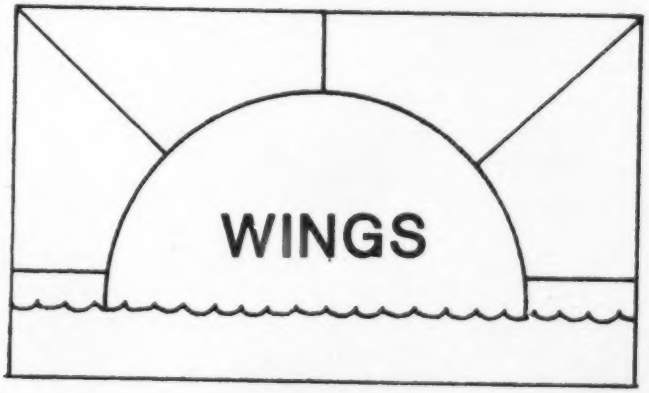

FAST SWIMMERS

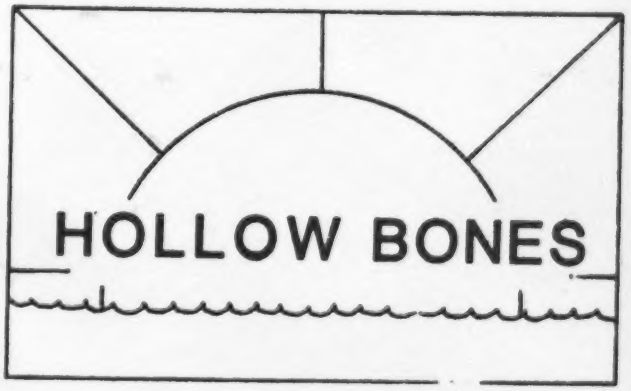

SMART ANIMALS

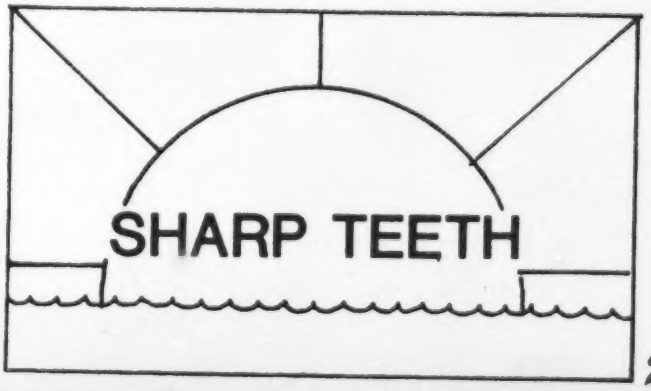
K-2a 23.2

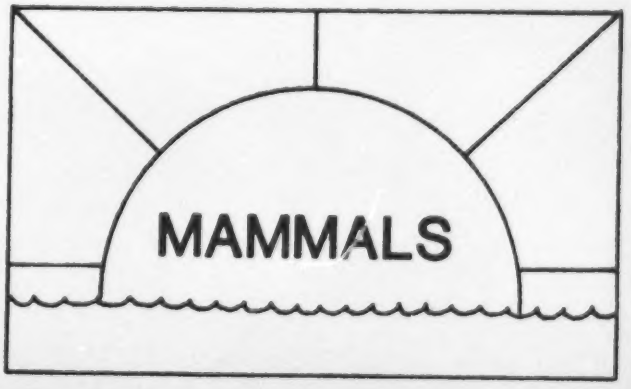

FEATHERS

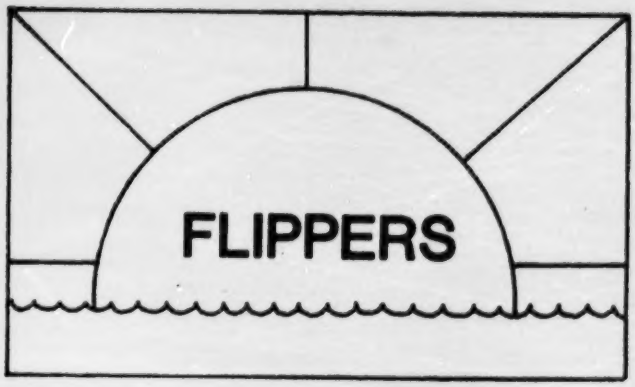

BEAKS


WINGS


HOLLOW BONES


SHARP TEETH


MAMMALS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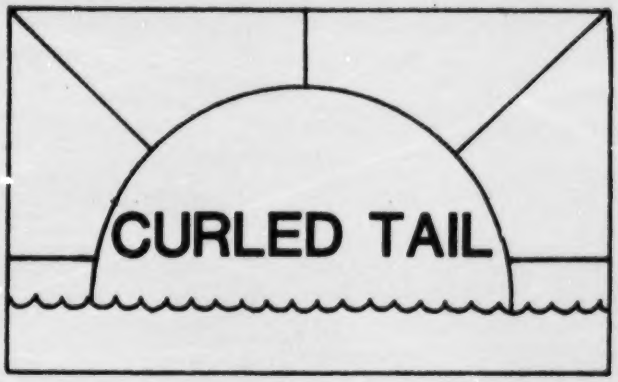
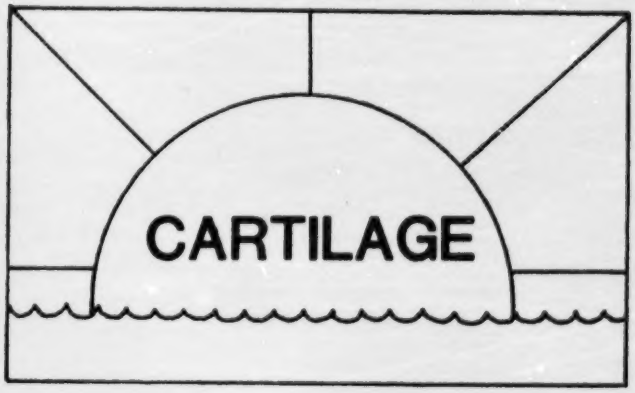

CURLED TAIL

K-2a 23.3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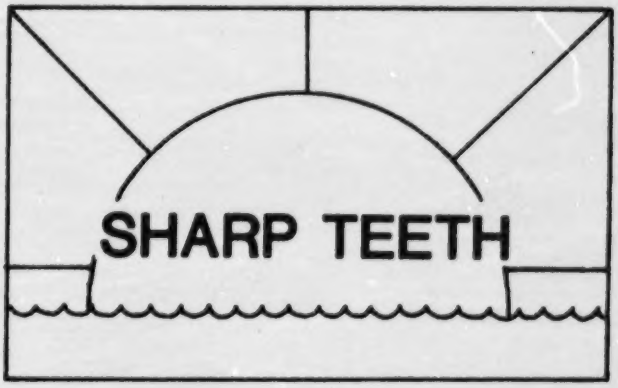
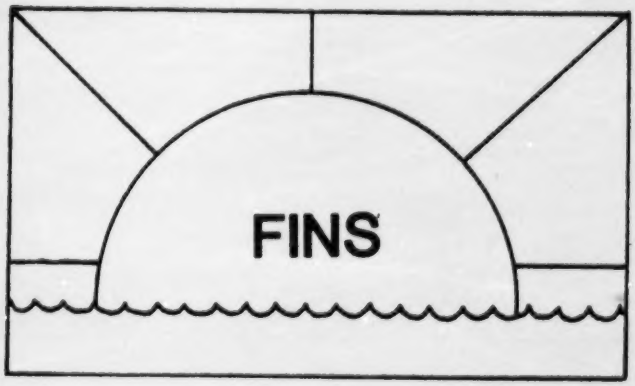
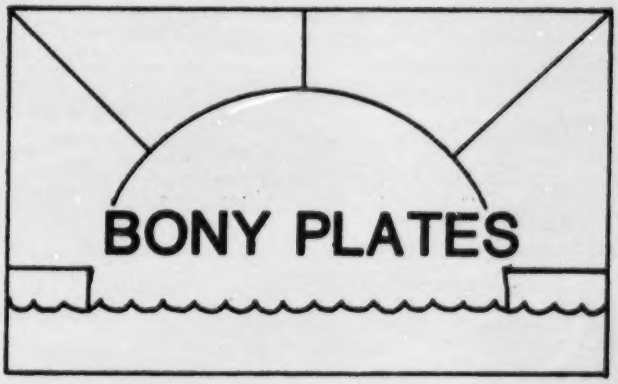
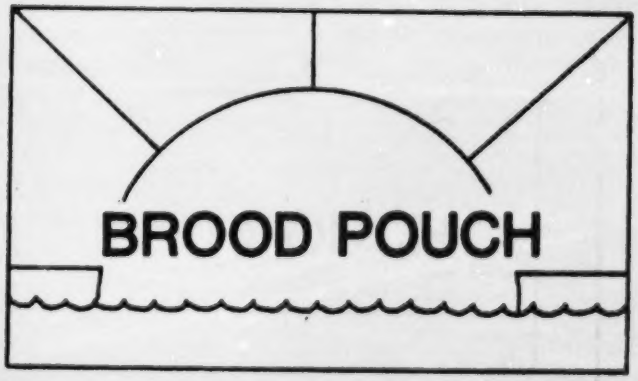
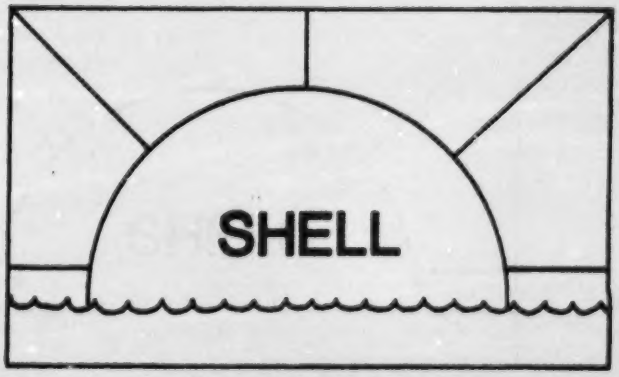

SHARP TEETH


FINS


BONY PLATES


BROOD POUCH


SHELL

K-2a
24.1

FIND THE HIDDEN WORDS

A B L O W H O L E P X S

T A G T F I C M E G G C

E L U U G J E N L I W A

E E L R H K A I R L I L

T E L T F I N O Q L N E

H N E L W H A L E S G S

B D F E A T H E R R V Y

C S H E L L L S H A R K

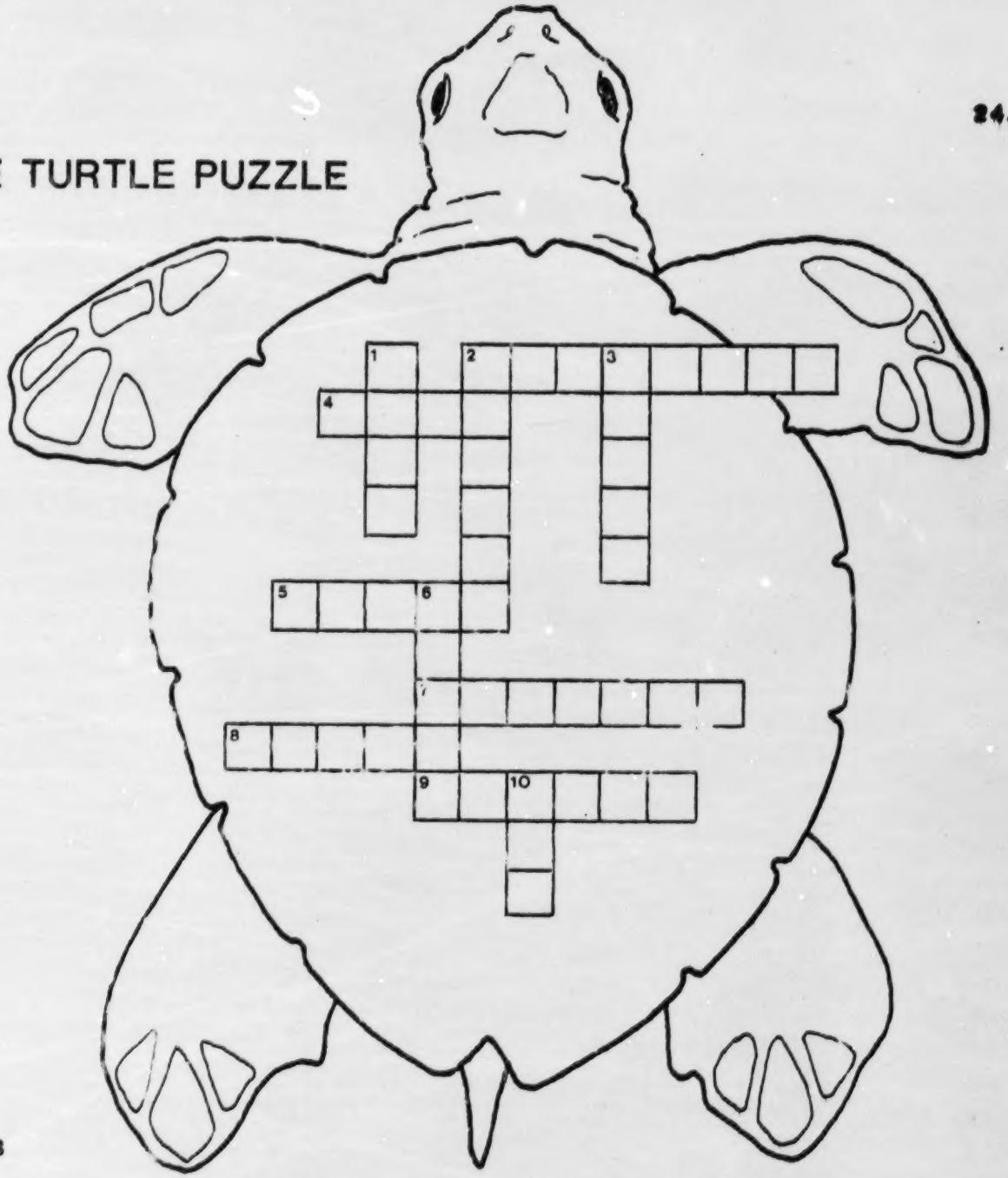
S E A H O R S E T U W Z

WORD LIST

SCALES
BALEEN
EEL
AIR
SEAHORSE
FEATHER
BLOWHOLE
OCEAN
TURTLE
WING
WHALE
GULL
SHELL
GILLS
SHARK
EGG
TEETH
FIN

24.2

THE TURTLE PUZZLE



ACROSS

2. The seagulls body is covered with _____.
4. The seahorse holds to plants with its _____.
5. Seagulls fly and glide with their _____.
7. The blue whale is the _____ mammal.
8. The turtle is covered with a _____.
9. Fish are covered with _____..

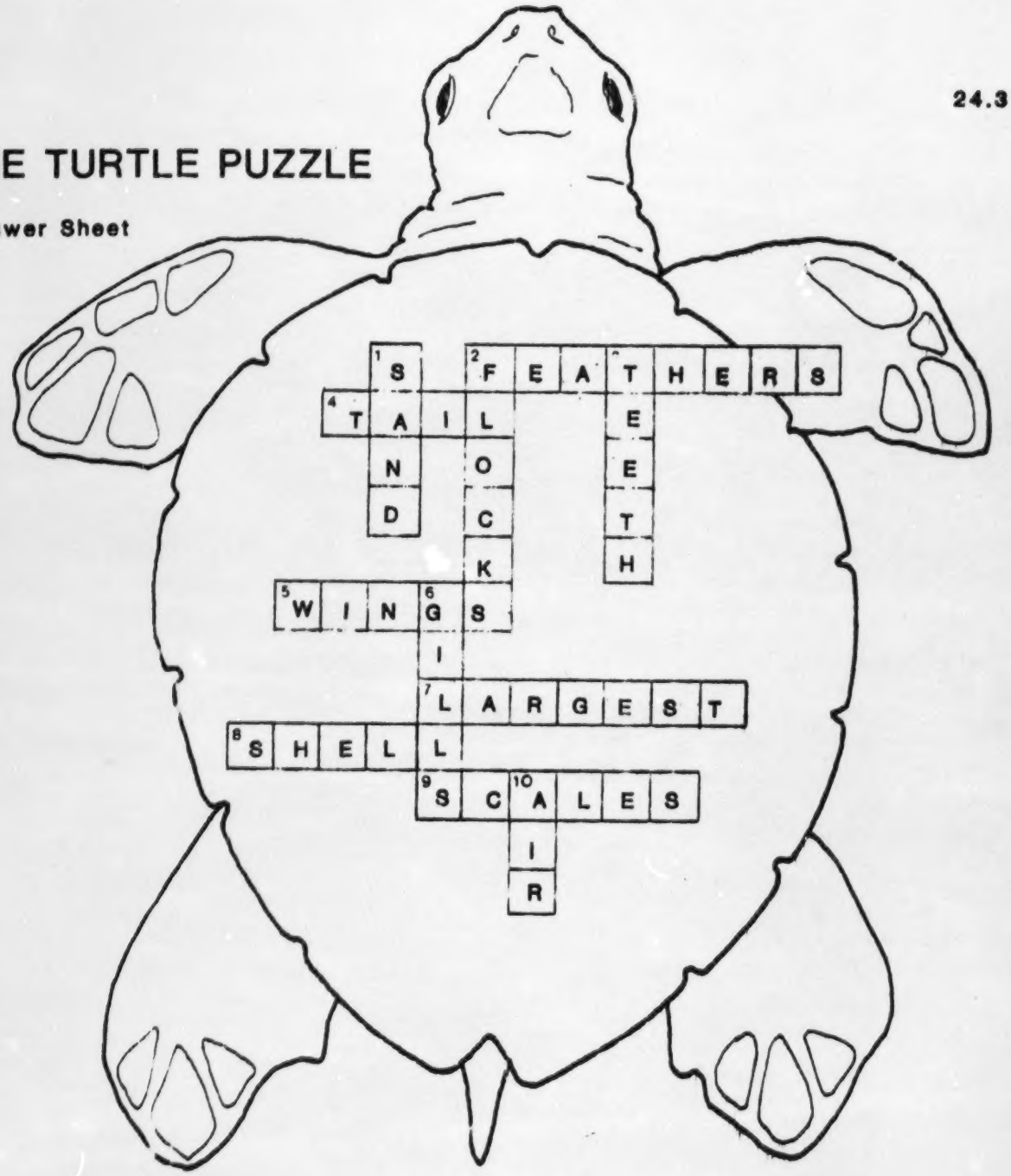
DOWN

1. Turtle eggs are laid in the _____.
2. Seagulls live in _____.
3. Sharks have sharp _____.
6. Fish breathe with their _____
10. Blue whales breathe _____.

24.3

THE TURTLE PUZZLE

Answer Sheet



WATER WORLD CREATURES TEST K-2a

First Grade Name:_____

Directions: The teacher will read statements orally, students will circle yes or no.

1.	All animals in the ocean have scales.	YES	NO
2.	Feathers keep birds dry.	YES	NO
3.	All animals have skin.	YES	NO
4.	A turtle has a shell.	YES	NO
5.	Whales are big fish.	YES	NO
6.	Whales breathe air.	YES	NO
7.	Whales come from eggs.	YES	NO
8.	Whales have scales.	YES	NO
9.	Whales eat with their blowhole.	YES	NO
10.	All marine animals live on the surface of the ocean.	YES	NO
11.	Humans know all the animals in the sea.	YES	NO
12.	Water pushes on the animals in the ocean.	YES	NO
13.	Water pressure is the same at all levels of the ocean.	YES	NO

14. When you grow up, you may discover unknown fish. YES NO

15. When you go deep sea diving, you will see fish just at the bottom of the ocean. YES NO

16. When you are deep sea diving, the water will push all around you. YES NO

17. All marine animals are fish. YES NO

18. All marine animals breathe air. YES NO

19. A sea gull is a fish. YES NO

20. Fins help birds fly. YES NO

21. Marine animals are all covered with scales. YES NO

WATER WORLD CREATURES TEST K-2a

Second Grade Name:_____

Directions: Circle the correct answer.

1. Sea gulls have feathers to cover them. What do fish have to cover them?

   gills scales

2. Sharks live in the ocean. What other animal lives in the ocean?

   whale gull

3. Birds use wings to help them fly. What do fish use to help them swim?

   scales fins

4. Birds hatch from eggs. What other animals hatch from eggs?

   turtles whales

5. Whales breathe air through their

   gills. blowhole.

6. Baleen whales eat

   krill. seaweed.

7. Whales are _____ mammals.

large small

8. Whales live

in herds. alone.

9. Whales are

fish. mammals

10. Fish breathe oxygen with their

gills. scales.

11. A turtle has _____ on its body.

a shell fins

12. When you go deep sea diving, you will see fish only at the bottom.

yes no

13. All fish have

gills. the same color.

14. The father seahorse carries the eggs in his _____.

brood pouch. bony plates.